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Editor-in-Chief



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## **Editorial .....**

Provoking fresh thinking is certainly becoming the prime purpose of International Journal of Multidisciplinary Educational Research (IJMER). The new world era we have entered with enormous contradictions is demanding a unique understanding to face challenges. IJMER's contents are overwhelmingly contributor, distinctive and are creating the right balance for its readers with its varied knowledge.

We are happy to inform you that IJMER got the high Impact Factor 2.735, Index Copernicus Value 5.16 and IJMER is listed and indexed in 34 popular indexed organizations in the world. This academic achievement of IJMER is only author's contribution in the past issues. I hope this journey of IJMER more benefit to future academic world.

In the present issue, we have taken up details of multidisciplinary issues discussed in academic circles. There are well written articles covering a wide range of issues that are thought provoking as well as significant in the contemporary research world.

My thanks to the Members of the Editorial Board, to the readers, and in particular I sincerely recognize the efforts of the subscribers of articles. The journal thus receives its recognition from the rich contribution of assorted research papers presented by the experienced scholars and the implied commitment is generating the vision envisaged and that is spreading knowledge. I am happy to note that the readers are benefited.

My personal thanks to one and all.

**(Dr. Victor Babu Koppula)**



## **PLANNING OF FLYOVER INCLUDING SUBWAY AT CHANDANNAGAR BYPASS**

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### **1.0 INTRODUCTION**

Chandan nager-Bypass is located Eastern side of Pune city. Some important buildings are close to - Chandan nager Bypass, such as Shopping Malls, EON IT Park, Construction sites, and educational building and PWD office. Three roads are merging and diverging at a single point of Chandan nager - Bypass place. Due to college & school buses , PMPML, Vans, Auto-rickshaws, Travels, Luxury Buses from other district like Nagpur, Ahmednagar, Akola, Aurangabad etc. on 7.30 am to 9.00 am daily, private vehicles, this all traffic flow is going to collect at place & then it diverts which results in traffic congestion, accidents, delay etc. In this project data collected for flyover planning is given also various alternatives of flyover with their layout, merits & demerits are given. Choice of materials, span length, cross section & type of construction is justified. For this survey we have observed the junction for a week and concluded that traffic is highest on working day in morning from 7.30 am to 11 am and in evening 4.30 pm to 8.30 pm. Also we gathered



information from local people, which is same as we have observed.

To know the exact peak hour traffic we have made video clips on 25<sup>th</sup> NOV 2013 in morning from 7.30 am to 11 am and in evening from 4.30 pm to 8.00 pm. The different types of vehicles considered for this survey are cycle, motorcycle, auto rickshaw, car, bus, truck, tempo, tractor, tractor plus trolley, tanker, container and bullock- cart.

## **2.0 STUDY OF TYPES AND VOLUME OF TRAFFIC**

### **2.1 Aim:**

To collect the data about type and volume of traffic at present and to estimate the same that the road is expected to carry in near future.

### **2.2 Analysis of the traffic volume:**

Traffic is highest on working day in morning from 7.30 am to 11 am and in evening 4.30 pm to 8.30 pm.

**Table 2.2.1 TRAFFIC FLOW DISTRIBUTION**

Present Per Hour Traffic.

Date: 25<sup>th</sup> Nov.2013-24<sup>th</sup> Dec 2013.

FROM	TO	VEH	CY	M.CY	CAR	TRUC K	BUS	AUTO RICK	TEMP	TANK	OTHE R	2.5 hr	1 hr
		EQ.P CU	½	½	1	1	3	3	1	3	3		
WAGH OLI	PUNE	NO.	6	2317	1430	90	100	270	122	29	24	4378	1751
		PCU	3	1159	1430	90	300	810	122	87	72	4073	1630
	HADAP SAR	NO.	5	1200	710	60	115	25	59	27	17	2218	887
		PCU	3	600	710	60	345	75	59	81	51	1984	794
PUNE	WAGHO LI	NO.	7	2800	1771	160	344	89	235	26	5	5437	2174
		PCU	4	1400	1771	160	1032	267	235	78	15	4962	1985
	HADAP SAR	NO.	6	1510	410	217	111	13	212	2	20	2501	1000
		PCU	3	755	410	217	333	39	212	6	60	2035	814
HADA PSAR	PUNE	NO.	8	1410	1003	50	400	80	300	15	26	3288	1315
		PCU	4	705	1003	50	1200	240	300	45	78	3625	1450
	WAGHO LI	NO.	11	1990	901	100	350	80	410	12	16	3869	1548
		PCU	6	995	901	100	1050	240	410	36	48	3786	1515



**Table 2.2.2 Present And Forecasted Traffic For Next 5 & 20 Years (In Terms Of PCU)**

**Junction Name: - Chandan nagar-Bypass Chowk.**

FROM	TO	Traffic flow in PCU		
		Present	After 5 year	After 20 year
WAGHOLI	PUNE	1630	2608	9829
	HADAPSAR	794	1270	4788
PUNE	WAGHOLI	1985	3176	11970
	HADAPSAR	814	1302	4908
HADAPSAR	PUNE	1450	2320	8744
	WAGHOLI	1515	2424	9136

**Table 2.2.3: Historical Growth Rates Of Registered Vehicles In Pune**

	Total	Increase	% Increase
2000-01	298484	-	-
2001-02	328780	30,296	10.15
2002-03	358648	29,868	9.08
2003-04	387475	28,827	8.04
2004-05	413404	25,929	6.69
2005-06	440126	26,722	6.46
2006-07	472507	32,381	7.36
2007-08	519302	46795	9.90
2008-09	573123	53821	10.36
2009-10	625782	52659	9.19
2010-11	684053	58271	9.31
2011-12	746237	62184	9.09
Average of increased registered vehicles			7.97



### **3.0 TOPOGRAPHIC SURVEY:**

In topographic survey we have collected following details-

Road widths, road junction details, straight length of road, road margins, reduced levels and some other site details all these details are collected.

### **4.0 GEOTECHNICAL DATA:**

Hard stratum is available at the average depth of 2.5 m.

Soil type: Basalt rock & hard murum is available.

Bearing capacity of hard strata 3500KN/m<sup>2</sup> to 5000KN/m<sup>2</sup>.

In planning, it is tried to minimize conflict points particularly crossing conflict points completely.

We have studied number of alternatives, from those three alternatives seems to be suitable. And their comparison with their merits and demerits is given below.

<b>Sr. No.</b>	<b>Parameters</b>	<b>Collected Values</b>
1	Road Width	40m
2	Road Junction Details	3 Nos.
3	Straight Length Of Road	1 Km
4	Road Margins	4m
5	Reduced Level	102.00m

## 5.0 Alternatives of flyover including subway-

### Alternative-1

Here importance is given to the traffic coming from Pune towards Hadapsar and from Hadapsar to Pune. The alignment of the two flyovers is shown in the fig 5.1

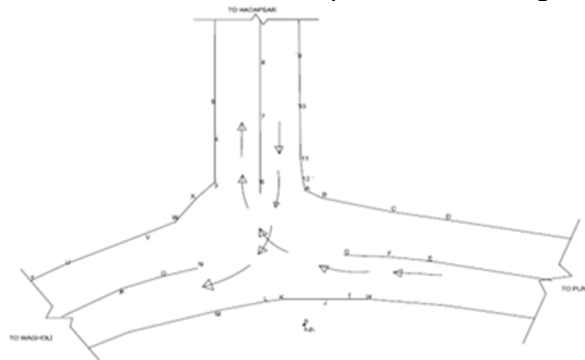
The merits and demerits of this alternative are as follows:-

#### Merits:-

- 1) It reduces the crossing conflict points at Wagholi to Pune.
- 2) It can be constructed in stages with less difficulty.
- 3) Due to two flyovers all lanes are separate from each other and reduce conflict point.

#### Demerits:-

- 1) Due to two flyover construction cost is very high.
- 2) Height of upper flyover will be more.
- 3) Optional road for traffic not possible during construction.



**Fig.5.1 Flyover alignment Alternative-1**

## 5.2 Alternative -2

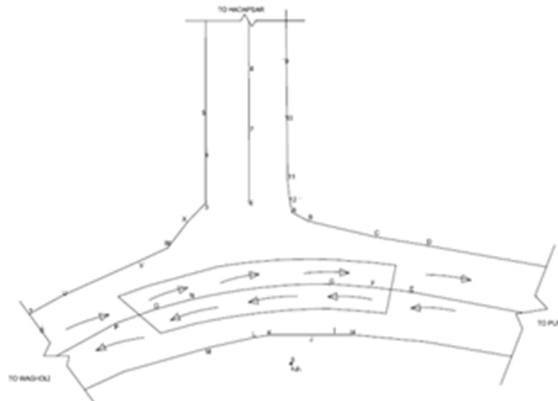
Here importance is given to the traffic coming and going from Pune to Wagholi and Wagholi to Pune. The alignment of the flyover is shown in the fig 5.2

The merits and demerits of this alternative are as follows:-  
Merits:-

- 1) It reduces the crossing conflict points at Hadapsar to Wagholi & Pune to Hadapsar.
- 2) It can be separate Pune-Nagar Road's traffic from this chowk.
- 3) Maximum traffic is passed without much disturbance.

Demerits:-

- 1) Crossing point of Hadapsar to Wagholi & Pune to Hadapsar is not reduce.
- 2) To visitors it may create some problems in choosing road.



**Fig.5.2 Flyover alignment Alternative-2**

## 5.3 Alternative -3

Here importance is given to the traffic coming from Pune towards hadapsar. The alignment of the flyover is shown in **the fig 5.3**

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Also here importance is given to the traffic coming from Wagholi towards Pune. The alignment of

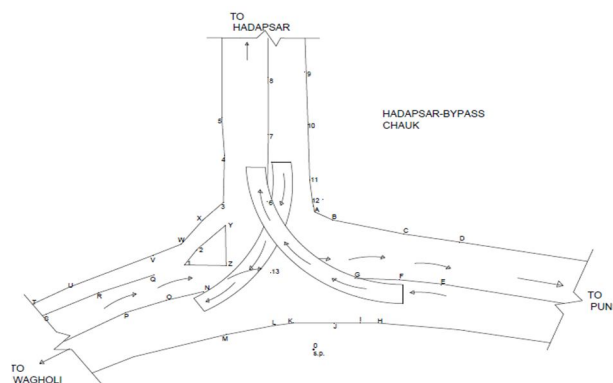
the subway shown in **the fig 5.3**

The merits and demerits of this alternative are as follows:-

Merits:-

- 1) It reduces the crossing conflict points at Wagholi to Pune and at Hadapsar to Wagholi.
- 2) It can be constructed in stages with less difficulty.
- 3) Due to subway, road get grade separator at Pune to Wagholi.

Demerits:-



- 1) We have not demerits for this alternative.

**Fig.5.3 Flyover alignment Alternative-3**

## 6.0 CONCLUSION:

Today's urbanization and its growth lead to increase in the basic needs of the Society. One of these is the transportation

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facility and its safety. Considering present traffic volume, its growth & topography at Chandan nager-Bypass, flyover including subway is more suitable than other traffic management options.

This report suggests flyover including subway as one of the solutions for traffic management at Chandan nager-Bypass.

The overall discussion and work of our project entitled "PLANNING OF FLYOVER INCLUDING SUBWAY" at Chandan nager-Bypass will serve the following points.

- It will reduce travelling time.
- It will reduce fuel consumption.
- It will reduce traffic accidents.
- It will reduce traffic pollution.
- It will reduce sound pollution.
- It will reduce air pollution.
- Improvement in health standard of the lung disease

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## FROM PHYSICAL BODY TO A SPIRITUAL SOUL: EXPLORING ALLAMA IQBAL AND HIS CONCEPT OF SELF

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### Introduction

*"It is not the outer beauty of a person that withstands the changing times, but it is the height of the inner beauty that makes a person immortal"*

Allama Iqbal (1877-1938) also christened as the Maulana Jalaluddin Rumi (Iqbals fundamental teacher) of the 20<sup>th</sup> century, is today remembered as a poet-prophet among the literary circles across the world. His poetising quoting Iqbal was not the object of his poetry, instead his poetry carried a message to inspire the heart, elevate the mind and to guide, rather than to entertain and please the listeners. In him, we find a unique blend of a prophetic poet and a great thinker/philosopher where under, the mind of a philosopher and the heart of a poet worked in unison. As a true son of Islam, he was well grounded in various branches of conventional Islamic studies and was also well acquainted with the old as well as with the new and contemporary schools of thought. Being an outstanding thinker and the advocate of the Muslim Ummah, his immediate concerns were the Muslims particularly the Muslims of sub-continent, but given his deeply rooted humanitarian concerns, his heart beat for every human being. He repeatedly sang of the dignity of man as man, and fought/stood for the self-respect and rights not only of the Muslim



community but of every man and woman. Iqbal's era had been a witness to the all-round and totalizing changes across the globe. Capitalism was at its zenith and the colonial imperialism had wrought the havoc in the sub-continent. On one hand, heavy strides in the field of knowledge and scientific development represented the hallmarks of modern times (Iqbal's era), on the other hand, imperialism under the guise of territorial nationalism, capitalist democracy, communism, fascism etc. trampled the very spirit of freedom and dignity of individual. The period also bears the witness to declining Muslim supremacy having fell prey to mighty and turbulent forces of the world and having yielded to unforeseen problems created as a result of civilizational conflict between the East and West. In the wake of declining Ottoman Empire and the emergence of cold world war, he strongly awakened the Muslim Ummah of their responsibilities towards development and change and warned them of the consequence of such developments what Huntington said in the 21<sup>st</sup> century while raising the issues of civilization clash. The horror of civilizational invasion has been the concern of Alama in almost in his every scholarly contribution. Iqbal was an erudite scholar who had a strong eye on the happenings around and knew exactly the preciousness of literature both of the East and the West. Having studied the world of men both in the sub-continent and abroad especially Europe, he kept a strong eye on the realities. His personality and intellect was to a large extent a response to the discourse he lived in. His abstruseness and sobriety was an outcome of the complex situations he faced and also the complex aspects, he wrote about. He believed in the philosophy of endless endeavour and tireless struggle and his

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personality was an epitome of courageous optimism and possessed the ability of looking through the dark strife and new beyond any doubt the meaning and significance of the conflict and the glory and grandeur of man's fight against the adverse circumstances and oppressive forces.

### **Iqbal on Culture and Civilizational Invasion**

Iqbal's philosophy of culture reflects his in-depth understanding of cultural matrix of western world and society. Here, it deserves a mention that he was not a blind critique of scientific advancement of West and for that purpose, he was not critical of any other social order merely because of its being old and alien or indigenous and new. For him, Western culture being materialistic lacks morality and values and is, hence, devoid, of any spiritual matrix which is the prerequisite or "sine qua non" of an ideal social order. Aghast by the concept of Modern Man/Industrial Man/Technical Man, he sensitized the Muslim Ummah of the consequences of acculturation process cutting across the regions and ethnic boundaries. He rejected the so called political ideology enrooted into the imperialistic and so called democratic process which was highly hegemonic in nature.

The culture according to him was a holistic process and he argued that individual is a byproduct of such process. He advocated the healthy cultural process is a key to the development of the Ummah that is why he rejected the western cultural as the only ideal culture by emphasizing on the indigenous cultural progress. For him the cultural process was an acquired phenomenon which helps in the continuity and change of the society. Having

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comparatively and meticulously studied the existing social orders of East and West, he concluded that ultimate salvation of mankind lies in the synthesis of the two cultures and advocated the amalgamation of the endogenous and exogenous cultures and civilizations for the total development of the society as a whole. The below given couplet of his book *Zarb-e-Kalim*, convey's the message:

***“Mashriq sa ho bezar, na magrib sa hazar kar  
fitrat ka ishara ha ki, har shab ko sahar kar”.***

(Do not show the East or look at the West with scorn, since nature yearns for change of night to morning).

Arguing that the Islamic culture framed by the teachings of Islam is scientifically valued and provides a complete and perfect frame of reference to the individual and society to maintain an equilibrium characterized by balanced social order. To him the Islamic culture was a process characterized by the collective justice and a social order based on the wisdom and healthy normative structure. He had cautioned that the western culture bereft of precious human standards as also devoid of any divinely and human values are grounded in the materialistic conception of development. In such a cultural process the individual is robbed of and alienated from the proper self. Allured by the worldly gains and leisure, Western man/modern man can go to any extent to realize his goals resulting in his commodification.

As against the material cultural matrix of the Western culture, Islamic culture is grounded in the divine cultural matrix where

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under material culture is subordinated to non-material culture/world pregnant with moral and social standards. Iqbal invites our attention to "*Tawhid*" (unity of God). For him, "*Tawhid*", as a working idea, connotes equality, solidarity and total emancipation of man. Therefore, the state, from the Islamic perspective, is essentially an effort to transform these ideal principles into time-space forces. According to him, republican form of government is consistent with the spirit of Islam. For him, establishment of "spiritual democracy is the ultimate objective of Islam. Arguing that in the Islamic cultural system prevalence is given to the "*Taqwai Illahi*" (fear of God) as he is the sole guarantor. He rightly warns that the Islamic Ummah is trapped in the vicissitudes and turbulence as man has distanced himself from the divine cultural matrix by inculcating the material values and by adopting the material culture. Warns that if the man is to save him and the human order, he need to distance himself from the cultural horrors of the west. For him, cultural invasion of the West has posed multifaceted threats to the Muslim Ummah because its influences are encompassing in nature and its main target is youth being the productive group and, hence, important asset of any society in whose hands lies the future of the nation. The so called modernisation and emancipation has been central to the cultural onslaught of Muslim Ummah.

Cultural onslaught to Iqbal was the most heinous one than the military and economic colonialism as the anti Ummah forces drawn by nefarious designs were hell bent to rob the Ummah from the basic principles of their culture i.e., the self and



morality. In the face of new capitalist world order, Iqbal had put in all his intellect to remain abreast but *alas* the cultural invasion has dismantled the roots of Muslim society. Thus the cultural onslaught has embarked through our institutions such as Dynasties, homes, schools, colleges and universities which has created the pathological situation for Muslim Ummah. To quote Syed Abulaila Maududi, Alama had performed the greatest ever job while giving a blow to the Western culture and their ideology of materialism arguing that his rejection of the West is recognized by one and all as there was no one to had such exposure of western philosophy, culture and civilization.

In the context of civilizational invasion there have been attempts to separate deen (religion) from the polity as Iqbal had been a witness to the declining political systems of the Muslim states where religion was literally separated from the polity and the Islamic culture was engraved and warned the Muslims of the consequences of this western ploy. Religion serves the purpose of moral upliftment of man and, hence, religion and humanity compliments each other. Iqbal in his poem titled "Mecca and Geneva" included in his book "*Zarb-e kalim*", states that in this age nations seem to be mixing freely with one another, although the principle of human unity remains hidden from the discerning eye. Elaborating his point, he reasoned that Western diplomacy is aimed at dividing humanity into nations, whereas the mission of Islam is to unify human beings into one fraternity. On this count, there is an utmost need for the Muslim Ummah to reassert themselves in the light of ultimate principles of Islam aimed at the spiritual democracy. For the sustained



survival of humanity, it is prudent for a man to develop mutual tolerance and foster respect for his fellow men, irrespective of religious, ethnic, territorial and material concerns. Only then can we attain the purpose of selfhood as envisioned by Allama Iqbal.

### **Iqbal's Man and his Spiritual Future**

Iqbal's conception of man is that of a dynamic man i.e., *Mard-i-mumin* –absolute/ideal man who is bestowed with the limitless potential. He is “biological by nature but metaphysical by origin, chemical in composition but spiritual in essence”. However, being the son of Islam and the poet of Quran, he propagated the Quranic concept of man by emphasizing the spiritual dimension of man over and above the biological and chemical dimensions. Though microcosm in form, man is a macrocosm lapping the entire cosmos in his bosom. The philosophy of selfhood which Iqbal called as “*Khudi*” is rooted in his macrocosm-microcosm apposition. The relative picture of tri-axiality of man as conceived by Iqbal governs his relationship with his inward axis/inner-self, upward axis/universe and outward axis/God with man occupying a primary co-ordinate where from the other two secondary and tertiary co-ordinates of universe and God can be traced. In philosophical lexicon, its analogue is provided by the trilogy of mind, body and spirit. For Iqbal, man is the plume of creation among all the species and he is cause of creation where under, variety of things have been created for him and the world is the stage for his performance. His emphasis on the self is a reaction as he rightly states that it is, “deed rather than an idea”. His biological, physical and chemical composition represents his self



contained centre but he is not yet a complete individual and stands apart from his creator/God. The more he distances himself from God the more he loses his individuality. It is as a spiritual being i.e., while being nearer to his creator/God that man develops a complete individuality.

As against other organic beings which are bound by their limited ways and means, *Mard-i-mumin* is guided by the divine laws. The divine corpuscle i.e., soul or consciousness that Iqbal calls "*Khudi*" represent the blue print of universe in which is transcribed all the necessary information about every atom of universe, whose transformation/decoding Allama calls as "*Tameeri Khudi*" or the discovery of self. The "*Mard-i-mumin*" is Iqbal's ideal man who is placed in equipoise between determinism and free will.

In conceptualizing "*Mard-i-mumin*", Iqbal is critical of both the western and eastern man. Western man who is also called as modern man, technical man, industrial man, one sided man etc, is secular, selfish, and immoral duped in false pride. He prides in the supremacy of scientific and material achievements and chases happiness only through the multiplication of wealth and material comforts. But, drowned in his intellectual achievements, he is alienated from his inner self and has ceased to live soulfully. In his magnum opus *Reconstruction*, he furthers his disillusionment from both the Western and Eastern man. About Western man, he comments: "In the domain of thought he is living in open conflict with himself and in the domain of economic and political life he is living in open conflict with others. The ruthless egoism and the



infinite hunger for gold gradually kills all higher striving in him and brings him nothing but life-weariness. On account of the Eastern man, he laments: "The condition of things in the East is no better. The technique of medieval mysticism by which religious life is in its higher manifestation developed itself both in the East and West has now practically failed far from reintegrating the forces of the average man's inner life, and thus preparing him for participation in the march of history. It has taught him a false renunciation and made him perfectly contended with his ignorance and spiritual thralldom".

Allama's philosophy of selfhood is a manifestation of delicate and precarious equilibrium between spiritual and material aspects of life or otherwise between the Mind and body. He seeks to fortify the self, instead of denying it. Iqbal believes that on the basis of the power of the desire of man and the purity of his endeavour, new worlds may not only be revealed to man but even created by him. For him, endeavour is life and lack of endeavour is death. The prime instinct of his philosophy of self or "*Falsafai Khudi*" is its emphasis on "action" and impetus it puts on the "dynamics of life".

For Iqbal, *Khudi* also translated as ego by him is not merely a mirage-an illusion of mind, but has real existence and connotes a process of self construction strictly based on Quranic prescriptions and the man who succeeds in this process of self-construction is in true terms a "*Mard-i-mumini*". He is Iqbal's ideal man for whom following divine commandments is the food for his stomach. He is a spiritual being and raises himself over



and above the so called narrow biological, chemical, physical and psychological horizons. His absoluteness is revealed by the fact that in the delicate equilibrium between the material and divine life, he is driven by his spiritual instincts and doesn't get lost in his material and worldly urges. He prefers annihilation i.e., living in God but without losing his individual identity i.e., self.

### **Iqbal and his Rich Sociological Thought**

Iqbal's undulating concerns and love for individual and humanity ultimately landed him in an arena full of social discourse. Man which has been the subject as well as object of Iqbal's writings (kalami Iqbal), also comprises the subject matter of the discipline of Sociology and hence, represents a connecting link between the two. Though Iqbal's sociological thought is not the mouth piece of any of the sociologist be it the Continental, sub-continental or Western, his sociological contributions are second to none.

Fundamentally, Iqbal's social thought was based on the idea of reconstruction of the religious thought. The goal of his interpretation of tradition was to arouse and awaken the national consciousness and political mobilization of Muslims. During 1905-08 in Aligarh, while advocating the revolutionary movement/ideas of students, he called for the political activities of the Muslim intellectuals arguing that poet must be "all seeing eye of the people". Thus, he invited the role of intellectual leadership.

Iqbals social philosophy was based on the idea of the active and sustained fight against the social evil .His main idea of social





concept was that the social order as advocated by Islam is based on the principle of *tawhid*/unity of God, the essence of which is equality, freedom and fraternity/solidarity. He pleaded for just distribution of material wealth and social rights in the society and was sympathetic enough to all the economic aspects of socialism and shared an utopian idea that Islam and socialism can supplement each other. For him, the idea of solidarity was integration of Muslims and idea of freedom meant the condemnation of western imperialism and capitalistic exploitation in conclusion his social philosophy was deeply rooted in the concept of humanism.

Allama has talked at length about contemporary social issues and challenges such as social order, social justice, culture, gender, youth, women empowerment, moral degradation, Imperialism, materialism, collective consciousness, social change and development, religion, education, sectarianism, parochialisation etc. In his perspective, the individual is central to the social system and man is a byproduct of the social institutions. His recognition of relative importance of individual and society finds a special mention in his books such as "*Asrar-i-Khudi*"/ The secrets of self and "*Ramuz-i-Bekhudi*"/ The mysterious of selflessness.

Iqbal argued that the social justice is a key to the continuity and change of society. The social progress is not possible without the ideal social order. The supremacy of justice lies in uniting different and even heterogeneous systems and subsystems into one body characterised by unity and harmony. By virtue of social



justice each member of society gets a due representation which leads to the collective consciousness and cohesion which in turn helps in building a social order. For him, the ideal society was the only response to the problems of human society. He aspired a society wherein the creative power of man is central to the social order and emphasised on the community interests over individual ones, and protested against social inequality and suppression.

Having compared the ideal society with the human body, we find an analogue of August Comte in him. Emphasising the close cooperation between its members, he argues that alone man is weak and powerless, his energies are scattered and his aims are narrow. He further adds that membership in the universe confers in him a sense of power and makes him conscious of great collective purposes in the contemporary materialistic world.

Given his meticulous analysis of the world cultures, he advocated the cultural synthesis especially those of East and West and warned the Muslim Ummah about blind adoption of the western culture. For him the salvation of mankind lay in the cultural synthesis. He argued that modernism in exchange of the material benefits has alienated us from our true self grounded in morality and high values and has brought with it, strange consequences of jealousy, abject submission, impatience and lust for worldly gains. Emphasising the importance of moral principles of ideal society he highlighted the role of religion as a key to the development of ideal social order but equally stressed a need for the social and political character and asked for the revival of the Islamic traditions with ideas of western democracy.



Iqbal was the revolutionary and was totally dissatisfied with the existing social order. Being anti- capitalist and anti- feudalism, he strongly admired the Russian revolution and the working class struggle of colonial period; appreciated equality, democracy and freedom in Russia but was disturbed to see the applicability of these ideas. For him, man is the main engine of social progress, therefore, the ideal order of society is not possible without him. He disliked and discouraged the bourgeoisie order and claimed the character of human activity can alone ensure social development and discouraged the society characterised by the race, cast and colour. He advocated the Ummah for establishing such a social order where all people will be equal and the spirituality may be the central to society. Elaborating this he expresses as

***“The hearts are throbbing with a yearning for revolution  
Perhaps the days of the old world war are numbered”.***

Allama was ardent critique of sectarianism and parochialisation which resulted in down fall of Muslim states and caused the disintegration of Muslim society. Being aware about the dangers of sectarianism, he warned Ummah against them in a number of verses as

***“Do not use your tongue for sectarianism  
there are terrible dangers hidden in it”.***

Addressing the moon in his poem 'Hilali Id', he says



***“Muslims are bound in shackles of sectarianism  
Just see your freedom and their bondage”.***

Orthodoxy and narrow conservatism was another social problem which posed serious handicaps to developmental process. Often he satirises the Mulla who is an embodiment of the orthodoxy, conservatism and narrow mindedness. The most difficult stage in the life and development of nations is the cultural lag i.e., the fear of the new order and sticking to the customary and old ways of behaviour. Among the other social issues highlighted by Iqbal were gender equality, liberalism, modernism, western education, capitalism and feudalism.

He saw gender equality as one of the important ingredient for social stability. He pushed for and advocated the equity of status of women alongside men. Extending further, he states that, “Women is a covering for the nakedness of man. Her love is a garment for the beauty of heart”. For Iqbal, a philosophy of life which creates an atmosphere of hatred and suspicion between male and female was not only destructive for the progress of society but was disastrous for the very sentence of mankind on earth. So he sharply reacted against the women of eastern societies who are imitating the freedom and emancipation of western societies. To him, there should be a feeling of love and mutual co-operation between male and female for a smooth working of the society. In his view, the equality of status between male and female does not also mean equality of job and responsibility. Like two wheels of the social life, they should move on their track in the same direction for the attainment of a common goal in life, i.e., for the prosperity of society and



continuity of mankind. So there should be perfect harmony and mutual understanding between the two sexes in every sphere of social life.

Iqbal considered the liberalism as a fashion imported from the west and even held it more dangerous than orthodoxy and conservatism. Though he always stood for liberty, but in his magnum opus *"Reconstruction of Religious Thought in Islam"*, he terms liberty of thought as an action of Satan and warns that liberalism of thought is dangerous for those who have no originality. He highlighted and exposed the social effects of western education bereft of social values and morals on Muslim Ummah. Being highly anti capitalist and anti-feudalist in spirit, he strongly discouraged the exploitation of down trodden and believed that modernism and blind imitation of west have robbed us of the moral values which were our distinctive features as Muslims.

### **Tail piece**

Allama Iqbal (RA) was the ambassador of humanity whose poetry touched contours of social evils and like all poet-prophets of the world; he used his poetry for the moral upliftment of the society. Iqbal's poetry will always remain interesting, appreciated alike by the scholar and the man in the street, for it is poetry based on an understanding of, and sympathy with, man as man in the East and the West. Iqbal was a poet whose rapture was reasoned and was not the result of mere sentiment and riotous fancy. He appreciated the best in both the East and the West and was not averse to condemning what he considered



reprehensible in both. His egalitarianism and magnanimity is reflected from the fact that while his philosophy of effort, endeavour and action represents assimilation from the West as distinguished from the asceticism, resignation and submission of the East, he held the East in high esteem for its rich spiritual and moral values. As a poet of Quran he always propagated the message of Islamic teachings aimed at humanity and collective good. Being a Muslim, his heart always beat for the Muslim Ummah especially the Muslims of Sub-continent being the worst sufferer's. He was the man of vision who was quite ahead of his age and times and possessed the high intuition of looking through the contours of time and space. Today, when the entropy in worldly social order is touching the sky, the need for his moral prescriptions and advocacies is being highly felt. His whole thought carries a great relevance in the contemporary world. His message is universal i.e., the message of love for humanity.

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## TRANSCENDING SUBALTERNITY: A STUDY OF ARNOLD WESKER'S *ROOTS*

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*Roots* is rated as one of the finest and the most faithful plays by Sir Arnold Wesker about the British working class life in the post-War British drama. One of the seminal playwrights of the New Wave drama that dominated the British theatre in the nineteen fifties and sixties, Wesker has been hailed as one of the key exponents of this genre, and is credited with establishing a new theatrical form called 'Kitchen Sink Drama' in which he shifted the arc lights from the cold drawing rooms to the warmth of the kitchens of ordinary people. Set in a rural background of Norfolk, the play exposes the corroding effect of the ordinariness and vacuity on the lives of these workers. It unfolds the layers of social hierarchy marked by a huge cultural gap between the intellectually and culturally awakened city dwellers, and the aesthetically impoverished existence of the subaltern class of petty farm labourers. *Roots*, according to Gareth Lloyd Evans, "is a play written with an urgent sincerity" that "deals with the polemics of the farmyard life" (Evans and Evans 85) marked by want, neglect and exploitation.

This paper is an attempt to explore how *Roots* dramatizes the listless existence of the marginalized, who exist as mute bystanders while the rich and mighty regulate their lives and





decisions. Accustomed only to a biological existence, these farm labourers reel under the demoralizing impact of economic and intellectual poverty, and nurture no ambitions or plans for a better future. Like the urban subalterns, they too occupy the suburbs of the post-War affluent capitalistic society as onlookers, seeking least participation in its evolution. In this context, Wesker presents Norfolk as a microcosm for regressive and rudimentary lifestyle.

Apparently, *Roots* is the inspiring tale of a young country girl, Beatie Bryant, who eschews her uncultured rustic lifestyle to seek refinement and fulfilment through education, art and music under the tutelage of her socialist boyfriend, Ronny Kahn. Awakened to aesthetic pleasures by his company, she is transformed absolutely though her attempts to involve and emancipate her family fail. Dumped by Ronnie on the pretext of incompatibility, she is left alone at the end of the play like Henrik Ibsen's Nora, but not before she has discovered her own self and her voice. It would, however, be a mistake to approach the play merely from this angle, for in the background, lies a poignant image of the vacant, uninspiring and meaningless existence of the subaltern class of rural farm workers. Wesker reveals vividly how neglect and exploitation by the dominant classes have deprived them of intellectually stimulating and culturally enriched lives. With pitifully limited mental horizons resulting from an overwhelming poverty and an absolute lack of stimulus, these subalterns exist in a life-denying environment. Alienated from the mainstream, they are confined to an entropic existence.



Surely, *Roots* exposes the ills that plague the farm workers in an agrarian set up suffering a decline under the onslaught of the capitalistic order which has bestowed rich gifts on the cities, but ignored the agrarian economy. Deprivation of basic amenities such as electricity, gas and water, and their alienation from all scientific and cultural advancements that characterize the urban life of the day, confirms the subalternity of these people. The locale of Norfolk creates a pulsating image of an absolutely cheerless rural environment in which these subalterns are brutalized by economic poverty and drudgery. Life here is gloomy, stagnant and devoted merely to fulfilling elementary needs of the residents. Ignorance and passivity have pushed these folks into leading inert lives. In fact, they exist as if in a state of limbo, and reel under the debilitating impact of all kinds of impoverishment – economic, intellectual, aesthetic and spiritual. In the social spectrum, they “do not count” at all, for they are, what Beatie very aptly calls, “a mass of nothing.” Drawing attention to the dullness and vacancy of their routine, which undoubtedly casts a shadow on their personal relationships, Wesker himself writes:

*Throughout the play there is no sign of intense living from any of the characters –Beatie’s bursts are the exception. They continue in a routine rural manner. The day comes, one sleeps at night, there is always the winter, the spring, the autumn, and the summer – little amazes them. They talk in fits and starts mainly as a sort of gossip, and they talk quickly too, enacting as though for an audience what they say. Their sense of humour is keen and dry. They show no affection for each other – though this does not mean they would not be upset were one of them to die.*



*Silences are important – as                      important as the way they speak,  
if we are to know them. (Roots 18)*

Thus the play not only dismantles the myth of a romantic, idyllic, pastoral life in a farm land by exposing its seamy, fractured and deficient side, but also lays bare the gulf dividing the urban and rural environment. In his incisive analysis of what ails farm wagers, Wesker discovers the paramount cause of their marginalization in terms of economic inconsistency. In the absence of any regular employment or wage, the shadow of want looms large on these people. Mr. Bryant, Jimmy Beales and Frank Beales subsist on menial farm jobs and find it nearly impossible to make both ends meet. In fact, their subalternity originates from their poverty. Scarcity of money renders the payment of regular bills as much an ordeal as holding on to one's job. Mr. Bryant, despite an experience of eighteen years, is still unsure of a regular employment. Knowing that any demand for hike in wages incurs the threat of retrenchment from the agrarian capitalist masters, Mr. Bryant is also conscious of the precariousness of his position. The farm owners, whose prime concern is with produce and profit, do not hesitate to cull down workers or overtime to bear the financial burden. Compounding his haplessness is ill health, old age and financial insecurity. Like many others, he is also entirely at the mercy of his employer. The ruthlessness, callousness and indifference of the rich owners towards the well-being of the working class become evident when Mr. Bryant is demoted despite his unmatched farming skills and rich experience. His inability to protest or voice his discontent against this decision re-affirms his subaltern status.



As the play unfolds, it becomes evident that Wesker has used Beatie very deftly to comment on the silent and listless existence of the farm workers who exist on the periphery of the industrialized world. Like many others who migrate from villages to commercial centres in search of better prospects in life, Beatie too goes to London and happens to come in contact with intellectually inclined Ronnie. Under his formative influence she comprehends the irony of her people's situation who live in close communion with nature, yet are alienated because they possess "no roots," no aesthetic taste, and no grace. Consequently, she voices her discontent with the kind of life they are leading:

*BEATIE. God in Heaven, mother, you live in the country but you got no—no—no majesty. You spend your time among green fields, you grow flowers and you breathe fresh air and you got no majesty. Your mind is cluttered up with nothing and you shut out the world. (Roots 53)*

Evidently, Beatie comes to confront the reality of her own subordinate status in the social spectrum only after her interface with the refined life of the elite class in London. Her failings are but the reflections of the world that she belongs to, and embodies. However, unlike other characters, she not only questions her deficiencies but also dares to improve them. When challenged by her mother to talk, Beatie laments:

BEATIE [*despairingly*]. ...I got no roots in nothing. I come from a family o' farm labourers yet I ent got no roots- just like town people- just a mass o'nothing'. FRANK. Roots, gal? What do you mean, roots? BEATIE [*impatiently*]. Roots, roots, roots! Christ, Frankie, you're in the fields all day, you should know about growing things. Roots! The things you come from, the thing that feed you. The things that make you proud of

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yourself-roots!...Things hev happened, things hev been discovered, people hev been thinking and improving and inventing but what do we know about it at all?

JIMMY. What is she on about?

*BEATIE [various interjections]. What do you mean...I'm telling you that we don't know what we are or where we come from. I'm telling you something's cut us off from the beginning. I'm telling you we've got no roots. ... Go on, tell me, what've we got? We don't know where we push up from and we don't bother neither. (Roots 71-2)*

Beatie's fervent speech is a telling comment on the restricted exposure of the subaltern class. Evidently, she holds their utter disregard for anything beyond daily existence as responsible for their plight which has been, by and large, conventional and unchanged for generations. In this context, Stephen Lacey avers: "The problem that Beatie locates is one of cultural impoverishment and that is not simply a contemporary phenomenon but has a long history" (Lacey 86). It is evident that denial and suppression over ages has made this class mentally stagnant, emotionally undemonstrative and culturally deficient, a fact Wesker voices through Beatie. Her dissatisfaction with her archetypal rustic environment is actually emblematic of Wesker's own disapproval of such a claustrophobic and narrow outlook towards life. It is by means of her call for a cultural revolution that Wesker launches a virulent attack on the depraved subaltern class afflicted with ennui, lassitude and indifference which have rusted the faculties of her people and made them impervious to any new idea or vision.

Exacerbating the misery of this class further is their absolute failure to use language as a means of effective



communication. It is not difficult to presume that the prime cause of their illiteracy and incapacity to voice their anguish originates from their alienation from the mainstream. In this context, Stephen Lacey points out:

*Language, in both the perpetuation of cultural deprivation, and resistance to it, is crucial.... It is the means through which the old cultural habits are continued and confirmed. Language is both a metaphor for the ideologies that shape the characters' lives and one of the chief means of perpetuating those ideologies. But in the case of these farm workers, their vocabulary is so sparse that it denies them even the power of communication. (Lacey, 87)*

The limited linguistic skills of Beatie and her friends working in London clearly point towards the standard of education available to the subaltern classes in the rural milieu. Undoubtedly, their inarticulateness is a consequence of their limited mental horizon and narrow exposure. Comparing Wesker's characters with those of Pinter, Kenneth Tynan observes that Wesker's characters also "live immured in a room, vaguely intimidated by the world outside, fearful of direct communication with each other, and therefore talking about everything except that most deeply concerns them" (qtd. in Rusinko 157). That's why their conversations, predominantly in the local dialect, are hollow, repetitive and inane exchanges, lacking intense involvement in any issue - personal, social or political - presumably because they are incapable of thinking or communicating even among themselves.

Thus the play is a sharp critique on the plight and mentality of the subaltern class of farm labourers which submits

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tamely to whatever is offered by the ruling class. Although Wesker's sympathies lie with these hapless men, he is not immune to their innate failings of character and attitude. Castigating their instinctive and insolent adherence to outdated attitudes, Wesker lays the onus of their plight as much on them as on the elite class. What he suggests through the play is that the subaltern classes must fight for their own emancipation. They need to assess their own capabilities and awaken their sense of dignity to lead meaningful and fulfilling lives. In this regard Beatie asserts:

*BEATIE. Oh, he [Ronnie] thinks we count all right – living in mystic communion with nature. Living in mystic bloody communion with nature (indeed). But us count? Count Mother? I wonder. Do we? Do you think we really count? ... they say, "the masses is too stupid for us to come down to them. If they don't make no effort why should we bother?" So you know who come along? The slop singers and the pop writers and the film makers and women's magazines and the Sunday papers and the picture strip love stories – that's who come along, and you don't have to make no effort for them, it come easy.... Anything's good enough for them 'cos they don't ask for no more!" (Roots 73-74)*

Wesker's stance on the issue of subalterns in *Roots* becomes clear when it is read in the context of the times to which it belongs - that period of British history when media was fast emerging as the image maker, tempting even the underprivileged towards the material benefits that were inundating the commercial markets as Britain began to emerge from the war time shortages and economic slump. But because of their aesthetic poverty, the working class became an easy target for

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abuse by the commercial world. Beatie herself is painfully aware of this exploitation as she laments:

*BEATIE. The whole stinkin' commercial world insults us and we don't care a damn. Well, Ronnie's right – it's our own bloody fault. We want the third-rate - we got it! We got it! We got it! We... (Roots 74)*

Thus the text reveals that Bryants' is a typical rural household devoid of any contact with the world of knowledge, art and music except by way of the pop music and pulp songs offered by the radio. Far removed from the influence of books, art or culture, they possess nothing to thrill their souls. As such, they merely embody "the deadening effect of the impersonal mechanized society which encourages the tendency to elevate fragments of experience, partial truths into total, absolute ideologies" (Sicher 69). In the absence of any aesthetic or moral stimulus, the farm labourers suffer from "mental lethargy" (Wilcher 45) and exhibit a disinterested response to their own cause. The unreflective and primitive lives of these people are dedicated only to the satiation of primal instincts. Indifferent to their immediate environment and unmindful of the advancement of the world, their horizon is confined only to following a monotonous cyclical rhythm of a dull and uninspiring routine, and submitting tamely to whatever is served to them.

Here, Wesker also exposes the exploitative tendencies of the dominant class. He repudiates the bourgeois commercial establishment which exacts a servile conformity from these poor workers. Charles Marowitz in *The Encore Reader* observes: "Their lazy incomprehension is being pandered to by the mass





media and by commerce. Anything is good enough for them because 'they don't ask for no more!' It is a short step towards the idea that the ruling class is also exploiting their laziness, and acceptance to maintain the social status quo" (Marowitz 224). Wesker brings out the contrast between the centre and the margins in terms of their culture. In *The Ragged Trousered Philanthropists*, Robert Trassell views the dichotomy between the "high" culture and "popular" culture as "a division between the body and the mind, and so corresponds to the most fundamental division of labour in Capitalism itself; that between the men who work with their hands, and the masters who work with their minds" (qtd. in Day 164-5). Even Robert Blatchford, a socialist, through his writings and newspaper *Clarion* tried "to convince the working class of the poverty of their culture under capitalism. They had to be made to realize that they were not just exploited at work, but also in their leisure" (165). This is precisely what Wesker voices through Beatie's passionate appeal. Even Robert Brustein seems to agree with him when he remarks:

*His [Wesker's] theme is not the ennobling of the masses, but their brutalization by mass culture; and like John Osborne and Dorris Lessing, he dramatizes the dilemma of the powerless intellectual, hungry for a social faith, but disillusioned by the failures of the preceding generation. (qtd. in Hayman, Playwrights 30)*

Beatie, having been exposed to modern art and classical music by intellectually inclined Ronnie, the representative of the elite class in the play, becomes embarrassingly conscious of her family's indigence of taste. Her pointed questions to her parents about her upbringing such as "What kind of life did you give me?



You didn't open one door for me" (*Roots* 53) fail to elicit any satisfactory response from Mrs. Bryant. Since the mother is incapable of appending any other meaning to life beyond the elementary necessities of existence, she replies agitatedly, "I fed you, clothed you, I took you out to the sea. What more do you want?" (*Roots* 53). Her myopic vision that can not attach anything creative, aesthetic or artistic with life is emblematic of the ennui, lassitude and inertia that marks the existence of this class. Her claim: "We're only country folk, you know" is symptomatic of the limitations of the subaltern mindset.

Thus if Wesker is critical of the elite classes for mistreating and depriving those who lie at the base of the social ladder, he also blames the latter for their abject apathy and lack of will to change or progress. They are unaware that an intellectually, aesthetically and spiritually impoverished existence has pushed them all to the social margins and severed its link with the mainstream. It is evident that the Bryants and the Beales, impervious and intolerant to new ideas, have reconciled with her marginalized status, and wish to exist in their comfort zone, even though it is primitive, impoverished, retarded and uncomfortable. "That's the trouble you see, we ent even prepared to learn anything, we close our minds the minute anything unfamiliar appears," Beatie confesses very candidly, and also warns, "Everyone must argue and think, or they will stagnate and rot, and rot will spread" (*Roots* 54). Commenting upon the realistic picture of the attitude of the marginalized class sketched by Wesker, A. D. Choudhuri observes:

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In the Norfolk village things not only move slowly but eternally centre around the small family circle. Without any breath of fresh air from the outside world, their poverty is unmitigated, their self centred life unrelieved by any altruistic consideration. It is a gloomy life industriously devoted to elementary needs of the family, crisscrossed by petty personal concerns, bereft of any spiritual feature. (Choudhuri 54-55)

Beatie comprehends the severity of the current situation and lays the blame squarely on her upbringing. She accuses her mother of not exposing her to the benefits of education,

*BEATIE [turning on her mother violently]: Mother! ... No wonder I don't know anything about anything. I never heard nothing but dance music because you always turned off the classics. I never knew anything about the news because you always switched off after the headlines. I never read any good books' cos there was never any in the house. (Roots 53)*

However, her concerns are beyond the comprehension of her mother: "I don't know what's gotten into you gal, no I don't" (53). The gulf between the mother and the daughter here signifies the gap between the age-old uncultured rural environs, and the aesthetically awakened urban existence being flaunted by the daughter. Mrs. Bryant's savage response to Beatie's new ideas and questions typifies the regressive attitude of this class which retaliates violently when confronted with a novel approach to life that demands thought and action. In fact, she refrains from acknowledging the deficiencies pointed out by Beatie and offers a stiff resistance to change. Observing the split between the two, Walter Allen remarks, "What Wesker is doing is quite simple. He



is exposing the impoverishment of the English working class, no longer necessarily their economic impoverishment, but in the deepest sense, cultural" (qtd. in Evans and Evans 85).

Thus to a casual reader, the play dramatizes a young country girl's ordeal of self-realization in the indifferent urban world, but in reality, Wesker uses her to suggest an alternative and a better way of life alien to her class. Through her, he underscores the idea that the marginalized can also discover themselves and join the mainstream provided they possess the urge to do so. Beatie, who projects Wesker's own romantic idealism challenges the social constraints that inhibit the lives of the farm labourers and denies them the enjoyment of arts and life. Her struggle for self actualization symbolizes the working class' struggle against its subalternity to realize itself, and its latent potential to locate areas of individual fulfilment.

Undoubtedly, *Roots* is Wesker's call for emancipation of the poverty ridden, under privileged and illiterate farm workers. Many of his characters such as Mr. and Mrs. Bryant, Jenny Beales, Jimmy Beales, Frank and others become metaphorical representations of the discontents of the rural labour class. Struck by poverty, apathy and inertia, they are denied individuality, recognition or voice by their environment. The dispirited response of Jimmy Beales and Mr. Bryant to workers' strike that crippled the entire London is emblematic of their stunted political awareness linked inseparably with their aesthetic and cultural bankruptcy. As Efraim Sicher quite pertinently observes, "The Bryant family does not care, they



don't care if an atom bomb dropped on them tomorrow, because if they cared, they'd have to do something about it" (65). Similarly, with limited resources to divert them, they are fascinated by the victuals. Plentitude of grub compensates for the paucity of money; and ampler physical growth over-rides their intellectual or spiritual growth. Consequently, most of them are obese, forever hungry, and suffering from gastric ailments; pain in guts and between shoulder blades is quite common.

This lackadaisical response is certainly associated with the dispirited and dreary atmosphere of Norfolk which is accentuated through juxtaposition with the active life of London. Through Beatie and Ronnie, the playwright highlights not only the ills that mar the lives and mentality of the subalterns but also brings out a sharp contrast between both, the London world of ideas, discussion and politics, and the monotonously primitive, unchanging and unsophisticated rural world of Norfolk. In an honest confession, Beatie herself brings out clearly the chasm between Ronnie's world and hers, between the progressive environment and the stagnant, as also between the elite and the subaltern class:

*BEATIE. He was interested in all the things I never ever thought about. About politics and art and all that, and he tried to teach me. He's a socialist and he used to say you couldn't bring socialism to a country by making speeches, but perhaps you could pass it on to someone who was near you. So I pretended I was interested – but didn't understand much. All the time he's trying to teach me, but I can't take it Jenny. (Roots 21)*



However, Beatie discovers her own voice and identity in the last scene when Ronnie betrays her. Although she stands alone, vulnerable and exposed against the antagonism of her family, she rises to the occasion not only to defend her self but also to confess her failings. The play reveals how Beatie transgresses all those restrictions that impede meaningful communication within the family, and graduates to using autonomous speech to voice her mind. In the last scene, when confronted with catastrophe arising out of Ronnie's rejection, she gains enlightenment and liberates herself from the shackles of her heredity and backward environment. We find that Beatie, having acquired new and better standards, rejects the lifestyle and the world that she had inherited, and asserts her independence by voicing her concern for issues which lie beyond the purview of her family's comprehension.

However, Wesker's theatrical purpose is not merely to expose the ills of the highly commercialized post-war British society or highlight the plight of the subalterns, but also to suggest viable solutions. He not only exposes their weaknesses and failings sympathetically, but also suggests the ways of liberating them from their demoralizing lives crippled by ignorance and apathy. He himself confesses in the prefatory note to actors and producers of *Roots*, "The picture I've drawn is a harsh one, yet my tone is not one of disgust – nor should it be in the presentation of plays. I am at one with these people: it is only that I am annoyed with them and with myself" (*Roots* 7). Adopting a two-dimensional approach, he suggests that if the elite classes are to blame for exploiting the subalterns

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commercially, using them and denying them a status of equality for ages, the latter too can not escape responsibility. In fact, they also suffer from an utter deficiency of confidence, faith and will to act, just like Eliot's hollow men. He indicts the elite for relegating the farm labourers into subalternity and denying them their share in development and prosperity. His urgent concern is their emancipation and empowerment which he envisages through education and exposure to the richness of culture. The establishment of Centre 42 in his real life is a manifestation of the same dream which finds expression in *Roots*.

What Wesker suggests through the play is that the responsibility of ameliorating the condition of the subalterns by illuminating the way to enlightenment rests not only on the establishment but on the dominant class too. The marginalized too *can* join the mainstream provided they exhibit an urge to grow, learn, and change, while the dominant class lends them a helping hand. Thus, he proposes a joint endeavour for the overall development of the society. Wesker tries to bridge the gap between the elite and the subaltern, the educated and the illiterate, and the privileged and the underprivileged through Ronnie-Beatie relationship. Under the positive influence of Ronnie's ideas on art, life, education and socialism, Beatie begins to outgrow her family and its primitiveness. In Ronnie, Wesker creates the representative of a progressive, awakened elite class, who instead of displaying stereotypical pride in his superiority, extends a kind, sympathetic and helping hand to pull Beatie out of her rudderless and socially insignificant existence. He transcends class barriers to help her find her voice, not because

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he is in love with her, but because just like the playwright, he too believes in the tenets of liberty and equality.

Thus, Wesker tries to dramatize the dialectics of emancipation of a subaltern class – of reclaiming one's dignity by rejecting servitude, and striving consciously for a qualitatively better life. The concept is projected through the contrast between the primitive and servile existence of the Bryants with the intellectual and instinctual liberation achieved by Beatie through Ronnie's stimulating support. The playwright explores the possibility of uplifting the subalterns by sensitizing them through learning about their rights, weaknesses and place in the society. Beatie's definition of real education is not meant for any specific group but everyone who occupies the margins:

*BEATIE. Education ent only books and music – it's asking questions, all the time. There are millions of us, all over the country, and no one, not one of us, is asking questions, we're all taking the easiest way out. Everyone I ever worked with took the easiest way out. We don't fight for any thing, we're so mentally lazy we might as well be dead. Blust, we are dead! And you know what Ronnie say sometimes? He say it serves us right. That's what he say -- it's our own bloody fault! (Roots 73)*

The play establishes Wesker's commitment to the significance of education in empowering the subaltern classes in an industrialized and mechanized world. Thus, Wesker calls for an intellectual transformation of the subalterns to enable them to differentiate between life and 'existence.' Viewed from this angle, *Roots* is Wesker's call for a proletarian cultural revolution to check the proliferating economic disparity between the two classes. He shuns all political ideologies to revolutionize the lives

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of these voiceless people who shy away from owning any responsibility. Through Beatie's metamorphosis, the play highlights Wesker's faith in "the educational process as a first line of defence against oppression" (Dornan, *Casebook* 3). Though the emancipation of one individual can not be termed as a revolution, it is certainly a beginning. In fact, Wesker's ideology emulates William Morris' who did not look upon art as a luxury meant only for the privileged. Rather, he regards arts "as a necessity of human life which society has no right to withhold from any one of the citizens" (Morris 321). In this context, the play is a potent comment on the impediments that stall the liberation of the marginalized from their inherent deficiencies. It also emphasizes that poverty, apathy and servitude are antithetical to individual growth and social revolution, yet one can transcend subalternity through education.

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## CONSTITUTIONAL VALIDITY OF UNNATURAL OFFENSES UNDER SECTION 377

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**<sup>1</sup>Section 377 of the Indian Penal Code 1860 runs as follows:**

*"Whoever voluntarily has carnal intercourse against the order of nature with any man, woman or animal, shall be punished with imprisonment for life, or with imprisonment of either description for a term which may extend to 10 years and shall also be liable to fine".*

Explanation – Penetration is sufficient to constitute the carnal intercourse necessary to the offense described in this section.

As in rape so also in an unnatural offense even the slightest degree of penetration is enough and it is not necessarily to prove the completion of the intercourse by the emission of seed.

This section is intended to punish, of the offense of 'sodomy', 'buggery' and 'bestiality'. According to Oxford advanced learners dictionary sodomy means a sexual act in which a man puts his penis in another man's anus. Buggery means anal sex and bestiality means sexual activity between a human being and an animal.

Under sexual offenses Act 1967, buggery is no longer an offense in England if committed in private between two consenting adults of and above the age of 21. This Act has, however been criticized even in England as negating states right to suppress a social vice.

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<sup>1</sup> Section 377 of the Indian Penal Code 1860

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The Bible prohibits this sodomy and bestiality. In <sup>2</sup>Leviticus 18<sup>th</sup> chapter and verse 22, 23 says 18:22 "you shall not lie with a male as with a woman. It is an abomination".

In 18:23 "nor shall you mate with any animal, to defile yourself with it, nor shall any woman stand before any animal to make with it". It is perversion and in Leviticus 20:13 again it prohibits the sodomy. It says (Lev 20:13) "if a man lies with a male as he lies with a woman, both of them have committed an abomination".

Lord Macaulay who was the President of the first Indian Law Commission, 1833 and also a pioneer of Indian Criminal Law might have influenced by the biblical principles, inserted the Section 377 in the IPC which penalizes unnatural sexual offenses.

On July 2009, the Delhi High Court ruled that Section 377 could no longer be used to criminalize consensual sex between adult men and women. The section technically covers hetero sexual non productive sex too, but in practice it has managed to demonize anal sex and influence the public misperception of it as being an exclusively Gay male act, a bench comprising the then Chief Justice Ajith Prakash Shaw and Justice S. Muralidhar of the Delhi High Court declared section 377, in so far as it criminalizes consensual sexual acts of adults in private as violative of Articles 21, 14 and 15 of the constitution. But the bench added that the provisions of section 377 would continue to govern nonconsensual penile non vaginal sex and penile non vaginal sex involved in minors. <sup>3</sup>(*Frontline*, Dec. 25, 2013).

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<sup>2</sup> Leviticus 18<sup>th</sup> chapter and verse 22, 23 says 18:22 and 18:23.

<sup>3</sup> (*Frontline*, Dec. 25, 2013).

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However here the Delhi High Court did not struck down Section 377 completely. But divided homo sexual Acts into two parts – one is consensual sexual Acts and the other is nonconsensual sexual Acts between man and man as well as woman and woman. The court gave exemption from criminalization only to the consensual homo sexual Acts. But non consensual, non vaginal sexual acts were not exempted from criminalization.

The petition has come before the Delhi High Court through a writ petition under article 226 by a Naz foundation which is a non-governmental organization involved in HIV / AIDS intervention and prevention. In this writ petition, the Naz foundation was the petitioner and the Government of the National Capital Territory of Delhi was the main respondent before the High Court. The union of India was another respondent. All the principal parties, the petitioner and the two government respondents accepted the High Court's decision. The Union of India, which has a responsibility to defend and enforce the existing laws, declined to pursue an appeal before the Supreme court, after a group of ministers constituted to examine the issue concluded that there was no merit in appealing given the clear merits of the Delhi High Court order.

But the main appellant / petitioner Suresh Kumar Koushal, an astrologer, himself was not a party in the case decided by the High Court and 11 of the 15 appellants before the Supreme court were not the parties before the High Court and Naz foundation challenged the appellants standing to approach the Supreme Court. The Supreme Court bench did not spend much time on this jurisdictional question and accepted the claim of the main appellant, Suresh Kumar Koushal saying that as a citizen he had the moral responsibility and duty to protect the cultural values of Indian Society as he believed that the



High Court judgment in the case threatened those values and he had a right to appeal against it.

On behalf of the Naz foundation and others who stood as respondents in the Supreme Court argued that Section 377 violated the right to health of men who have sex with men. For, criminalization of the same sex activity impeded access to health service, including HIV prevention efforts and also it was argued that criminalization of consensual sexual Acts of adults in private not only affected Lesbian, Gay, Bisexual and Transgender (LGBT) persons but also their families. They contended that they accepted their children's sexuality and were acutely aware of the social stigma, prejudice, myths and stereo type that surrounded the subject of homo sexuality in India.

In spite of contentions that had put forth by the Naz foundation and LGBT activists, the Supreme Court held "that Lesbian, Gay, Bisexual and Transgender (LGBT) constituted a miniscule fraction" of the population and that section 377 is not used frequently as there have been less than 200 reported judgments in 150 years of the law existence. The argument that the provision is vague and arbitrary, potentially rendering criminal most non procreative sexual acts was also not entertained, the Gay rights activists plea that Section 377 criminalizes a group of people and deprives them of equal citizenship was also rejected by a court that held on to a textual reading that the law only criminalizes certain acts but not people or identity. <sup>4</sup>(*The Hindu, Sunday March 2, 2014*). Therefore section 377 is not violative of any fundamental right.

At the time of Supreme court judgment, the congress part led UPA Government, they condemned the decision of the Supreme Court and expressed in Principle its support to repeal the Section 377 of IPC

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<sup>4</sup> (*The Hindu, Sunday March 2, 2014*).



but such legislative amendment does not appear to be a priority. The UPA government was busy with parliamentary elections and other issues like formation of Telangana State etc.

### **Political Reactions:**

The UPA chairperson, Sonia Gandhi urged the Parliament "to uphold the constitutional guarantee of life and liberty to all citizens of India including those directly affected by this judgment". She said that "the High court has wisely removed archaic, repressive and unjust law that infringed on the basic human rights enshrined in our constitution".

The BJP party president, Rajnath Singh described that homo sexuality as unnatural and ruled out extending support to the abrogation of Section 377. The parties' Prime Ministerial candidate and Gujarath former Chief Minister Narendra Modi too, maintained silence over the issue.

Brinda Karat, communist party of India (Marxist), described the Supreme Court order as wrong emphasizing that sexual relations that were consensual could not be criminal.

While the Thrinamool congress, the Janathadal (United) and the Aam Admy Party criticized the judgment, and however the Samajvadhi party supported the judgment of Supreme Court.

Whereas in USA by a 5-4 majority, the U.S Supreme Court recently issued a much anticipated rulings that determined as unconstitutional, the 1996 Defense of Marriage Act (DOMA) which denies Federal Government, benefits to legally married same sex couples. In striking down DOMA which was signed into law by the



former president, Bil Clinton, at a time when Gay marriage was widely opposed by the American public.

Pope Francis, in some of the most conciliatory words from any pontiff on Gays, said that they should not be judged or marginalized and should be integrated into society, but he reaffirmed church teaching that homo sexual acts are sin. Sin always pointed towards God but crime is towards state <sup>5</sup>(7<sup>th</sup> July, 2013, *Hindu*).

United Nations Secretary General, Ban Ki Moon has opposed any discrimination against LGBTs. Responding to the Supreme Court order pronouncing Gay sex illegal, the Secretary General reaffirmed that all human beings are born free and equal in dignity and rights and stressed the need to recommit ourselves to building a world of freedom and equality for all. <sup>6</sup>(The *Hindu*, Dec, 13, 2013).

U.S Secretary of State, Hilary Clinton said few years ago on international human rights day some seemed to believe homosexuality is a Western phenomenon and therefore people outside the west have grounds to reject well, in reality Gay people are born into and belonged to every society in the World, being Gay is not a western invention, it is a human reality.

On April 15, 2014, the Supreme Court however gave land mark judgment granting India's Transgender community the right to be recognized as a 3<sup>rd</sup> gendered category.

Thus we conclude that even though many countries like Canada, USA etc accepted the Gay marriages and recognized the rights of the LGBT community. In India so far LGBT rights have neither

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<sup>5</sup> (7<sup>th</sup> July, 2013, The Hindu).

<sup>6</sup> (The Hindu, Dec, 13, 2013).

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legalized nor recognized. But, political parties, Civil society groups and non-governmental organizations coming forward to decriminalize consensual sexual Acts and repeal the impugned section 377 of IPC, 1860 which is a welcoming step on humanitarian grounds and principles of natural justice.



## **MULTIPLE ATTRIBUTE PER COLUMN SLICING:A MODIFIED TECHNIQUE FOR DATA ANONYMIZATION**

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### **I. INTRODUCTION**

Data mining is a multidisciplinary field, including database technology, machine learning, information retrieval and knowledge-based systems. Data mining is demanded attention in the industry to maintain information. Due to the wide availability of data and various data mining algorithm for extracting information from this data, data are turned into useful information. The information gained could be used for various applications in market analysis, fraud detection and customer retention. The exploitation of Data Mining and Knowledge discovery has penetrated to a variety of Machine Learning Systems. A very important area in the field of privacy preserving g is Text Categorization [15] to analyze the data characteristics. Due to the widespread of data, data mining has been viewed as a threat to privacy that is maintained by the industry. Due to tremendous advancement in the field of data mining and knowledge discovery different ways for research in preservation of the data are evolved. Information is extremely

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demanded resource nowadays, so sharing of information is also important.

Let  $T$  be the raw microdata table, which has  $d$  quasi-identifier (QI) attributes  $A_1 \dots A_d$  and a sensitive attribute (SA)  $B$ . Here,  $d$  is the dimensionality of  $T$ , and all attributes are categorical. Given a tuple  $t \in T$ , we employ  $t[A_i]$  to denote its  $i$ -th ( $1 \leq i \leq d$ ) QI value, and  $t[B]$  its sensitive value. Use  $n$  to represent the cardinality of  $T$ , and  $m$  to represent the number of distinct sensitive values in  $T$ . Without loss of generality we assume that all SA values are

from the integer domain  $[m] = \{1, \dots, m\}$

Let  $T(A_1, \dots, A_n)$  be a table with a finite number of tuples. The finite set of attributes of  $T$  are  $\{A_1, \dots, A_n\}$ . Attribute in a table can be classified as three categories according to its role:-

- 1) Explicit-identifier is the attribute which can identify individual explicitly. E.g.: Name, Social security number etc. These attributes can be deleted before publishing to protect privacy.
- 2) Quasi-identifier (QI) refers to a group of attributes that can recognize personal information by using link such as {race, birth, sex, ZIP}. These require external information for linking.
- 3) Sensitive attribute are fields that has to be hidden which includes individual sensitive information. E.g.: salary, religion, political party, physical condition, etc



Number of various techniques for data anonymization [7] had been told in literature, like K-anonymity for generalization, I-diversity for Bucketization, and now slicing. In all approaches, attributes are partitioned into three categories: Identifiers, Quansi-Identifiers and Sensitive attributes. In all three techniques first step is to remove identifiers from the data, they differ in next step.

In generalization Quansi-identifiers are replaced with the some generalized values and in bucketization sensitive attributes are separated from Quansi-identifiers by randomly permuting across the bucket [6]. In this paper we are modifying slicing technique in these techniques characteristics of the data are analyzed and used in anonymization. This technique overcomes the limitation of the generalization and bucketization. Limitations of these techniques are discussed in section 3. We have performed our experiments on adult data set from UCIrvine machine learning repository. We have seen remarkable improvement in the privacy preservation and data utility than the previous methods.

The rest of the paper is organized as follows: Section 2 describes some of the previous work done in privacy preserving data publishing [13] and a comparison of various techniques of data anonymization introduced in past. Section 3 introduces our proposed model i.e. Multiple attributes per column slicing, Section 4 summarizes the experimental results and Section 5 concludes the paper along with future scope.



## II. RELATED WORK

Privacy preserving data publishing has applications in Medical databases like in scrub systems and in bioterrorism applications. There are varieties of algorithm are proposed for data anonymization out of which k-anonymity is widely used in this paper we are using k-anonymity for generalization for comparing experimental results.

### A. *K-anonymity*

It is a property that captures the protection of released data against possible re-identification of the respondents to whom the released data refer. To prevent identity linkage attacks through QID, Samarati and Sweeney proposed the notion of k-anonymity [11]: if a record in the table has some value qid, then at least  $k - 1$  other records should also have the value qid. In other words, the minimum group size on QID is at least  $k$ . A table satisfying this requirement is called k-anonymous [1]. In a k-anonymous table, each record is indistinguishable from at least  $k - 1$  other records with respect to QID. Consequently, the probability of linking a victim to a specific record through QID is at most  $1/k$ .

Definition 1: Quasi-identifier

Given a population of entities  $U$ , an entity-specific table  $T (A_1, \dots, A_n)$ ,  $fc: U \rightarrow T$  and  $fg: T \rightarrow U'$ , where  $U \subseteq U'$ . A quasi-identifier of  $T$ , written  $QT$ , is a set of attributes  $\{A_i, \dots, A_j\} \subseteq \{A_1, \dots, A_n\}$  such that  $fg(fc(p_i)[QT]) = p_i$ .

K-anonymity:



Let  $RT(A_1, \dots, A_n)$  be a table and QIRT be the quasi-identifier associated with it.  $RT$  is said to satisfy  $k$ -anonymity if and only if each sequence of values in  $RT[QIRT]$  appears with at least  $k$  occurrences in  $RT[QIRT]$ .

### B. $\ell$ -diversity

A QI group is said to have  $\ell$ -diversity if there are at least  $\ell$  "well-represented" values for the sensitive attribute. A table is said to have  $\ell$ -diversity[2] if every QI group of the table has  $\ell$ -diversity

- *Distinct  $\ell$ -diversity.* The simplest understanding of "well represented" would be to ensure there are at least  $\ell$  distinct values for the sensitive attribute in each QI group. Distinct  $\ell$ -diversity does not prevent probabilistic inference attacks. A QI group may have one value appear much more frequently than other value, enabling an adversary to conclude that an entity in the QI group is very likely to have that value. This motivated the development of the following stronger notions of  $\ell$ -diversity.
- *Probabilistic  $\ell$ -diversity.* An anonymized table satisfies probabilistic  $\ell$ -diversity if the frequency of a sensitive value in each group is at most  $1/\ell$ . This guarantees that an observer cannot infer the sensitive value of an individual with probability greater than  $1/\ell$ .
- *Entropy  $\ell$ -diversity.* The entropy of an QI group  $E$  is defined to be attribute, and  $p(E, s)$  is the fraction of records in  $E$  that have sensitive value  $s$ . A table is said to have entropy  $\ell$ -diversity if for every QI group  $E$ ,  $\text{Entropy}(E) \geq \log \ell$ . Entropy  $\ell$ -diversity is strong than distinct  $\ell$ -diversity, in order to have entropy  $\ell$ -



diversity for each QI group, the entropy of the entire table must be at least  $\log(\ell)$ . Sometimes this may be too restrictive, as the entropy of the entire table may be low if a few values are very common. This leads to the following less conservative notion of  $\ell$ -diversity.

### *C. t-closeness*

Many times privacy is measured by the information gain of an observer. Before seeing the released table, the observer has some prior belief about the sensitive attribute value of an individual [12]. After seeing the released table, the observer has a posterior belief. Information gain can be represented as the difference between the posterior belief and the prior belief. The novelty of our approach is that we separate the information gain into two parts: that about the population in the released data and that about specific individuals.

**Definition 3** (The t-closeness Principle): An equivalence class is said to have t-closeness[3] if the distance between the distribution of a sensitive attribute in this class and the distribution of the attribute in the whole table is no more than a threshold  $t$ . A table is said to have t-closeness if all equivalence classes have t-closeness.

### *D. $K^m$ Anonymity*

$K^m$  Anonymity has been proposed for an anonymized transactional database [4].  $K^m$  Anonymity aims to protect the database against an adversary who has knowledge about almost  $m$  items in the transaction [14]. The generalization was used to

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maintain the set valued data. For any transaction on K-1 records, other identical transaction would also appear. Km anonymity has been introduced via top down local generalization process to record the number of transaction records [4]. The partition based approach was used to group (partition) the similar items in a top down manner. The km anonymity model would help to prevent privacy breaches raised from an adversary who would discovered m items in a transaction database.

### *E. Slicing*

K-Anonymity could not guarantee the background knowledge attack of an adversary. The data was partitioned in both horizontal and vertical direction to preserve the privacy by permuting the sensitive attribute. Slicing was a popular data Anonymization technique. Slicing [6] could be formalized by comparing with generalization and bucketization. Generalization and Bucketization were used to replace a specific sensitive attribute value of transaction records. Generalization changed the low conceptual level of data to high conceptual level. Bucketization used l-diversity checking technique for multiple matched buckets. Mondrian algorithm [10] support membership disclosure protection for different privacy threats. Privacy threats leads to identity disclosure, attribute disclosure and membership disclosure. Mondrian algorithm would support map between logical model and a physical model.





TABLE I. RELATED WORK

Techniques	Dataset	Paper title	Publications	Advantages
<b>Generalization</b>	Adult Dataset	On K-Anonymity	Advances in Information Security (2007) Springer US.	High correlation among the tuples
<b>Bucketization</b>	Adult Database	$\ell$ -Diversity : Privacy Beyond K-Anonymity	Proc.International conference on Data Engineering.(ICDE)(2006).	Sensitive attribute would have at most same frequency
<b>t-closeness</b>	Pension Scheme Dataset	Privacy Preservation Measure using t-closeness with combined $\ell$ -diversity and k-anonymity	Proc. IEEE 23rd Int'l Conf. Data Eng. (ICDE), 2007.	Measure the distance between two probabilistic distribution that were indistinguishable from one another
<b>K<sup>m</sup> Anonymity</b>	Market Basket Dataset	Anonymization of Set Valued Data via Top	Proc. International Conference on Very Large Databases	Similar evaluated approach on k items



<b>Distributed K Anonymity framework (DKA)</b>		Down Local Generalization	(VLDB), 2009	
	Employee Dataset	A secure distributed framework for achieving k- anonymity	VLDB Journal ( 2006).	Global anonymization to ensure privacy.
	Adult Database	Slicing: a new approach for privacy preserving in data publishing	IEEE Transaction on KDD (2012).	Maintain trade-off between privacy and utility

### III. PROPOSED MODEL

We have discussed a number of data anonymization schemes till now problem with these techniques are they if they achieve privacy, could not increase data utility so we want to balance the trade off between data privacy and utility [16]. We proposed a novel technique called multiple attributes per column slicing. In our system we are using two classifiers that are decision trees and naïve Bayes to compare the results with previous schemes.

#### A. *Architechture model of System*

The architecture of the proposed model consist of data extraction from database, then this data is pre-processed and characteristics are analysed based on the correlation calculation for each and every attributes then vertically partitioned using k-means clusters, partition around medoid (PAM) algorithm [10], and horizontal partitioning done by using tuple partitioning algorithm proposed in the slicing technique of data anonymization and slicing as shown in the figure 1.

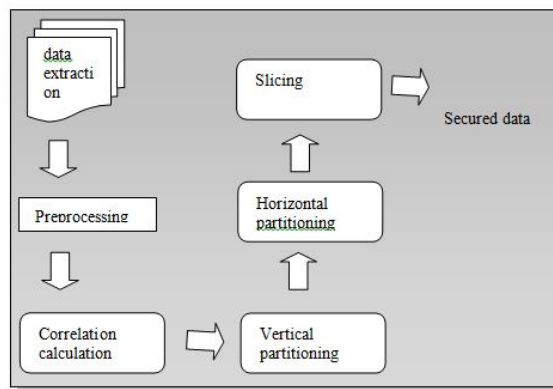


Figure1. Proposed architecture model of system



We propose the use of combining multiple attributes per column while partitioning data vertically based on their correlation coefficient. The attributes having same or nearly same correlation can be grouped in one column so that data miner doesn't have to consider the each and every column and tuple. For example we consider the microdata table.

Table II. Microdata for adult dataset

Age	Gender	Zipcode	Disease	education	income
22	F	47906	Flu	21	< =50
24	F	47906	Diabetes	12	< =50
54	M	47905	Flu	8	> =50
37	M	47603	dyspepsia	19	> =50
60	F	47905	Flu	10	< =50

Table II shows an example microdata table. The QI attributes are (Age; Gender; Zip code; education; income) and the sensitive attribute is Disease. Table 2a shows the multiple attributes per column sliced data.

In multiple attributes per column slicing, attributes which are having nearly similar correlation coefficient are grouped under one column in the above microdata table. Attributes (Age, Gender, Zip code) and (education, income) have similar correlation coefficient, so they are grouped in one column.



Table III. Microdata for adult dataset

(Age,Gender,education)	Disease,Zipcode	income
22,F, 21	Flu, 47905	< =50
24,F, 12	Diabetes, 47906	< =50
54,M, 8	Flu, 47906	> =50
37,M, 19	Dyspepsia,47603	> =50
60,F, 10	Flu, 47905	< =50

In table III attributes having same correlation coefficient are grouped in one column. for calculating correlation coefficient we are using Pearson's correlation coefficient calculation formula. All the remaining steps for data anonymization are same for both slicing and multiple attributes column per column slicing. In proposed architecture we first extract data from database and pre-process it to get data in the relational database format. In this step all the explicit identifiers are removed from data after that correlation values are calculated for all the attributes. Based on these values the highly correlated attributes are grouped in one column in this technique as many attribute having similar correlation are grouped in one column. After this records are partitioned horizontally in the buckets based on I-diversity of the sensitive value. Then sensitive values are randomly permuted across these buckets.

We modified the attribute vertical partitioning algorithm as following:



Multiple attribute per column slicing: Partition the database into columns by using Pearson's correlation coefficient

**Input:** Finite set of tuples with  $n$  attributes

**Output:** Highly correlated attributes are grouped in one column and tuples are partitioned in buckets.

1. Take database DB

1.1 Partition the DB based on PAM method.

1.2 Find the highly correlated attributes in the database.

1.3  $A_1, A_2, A_3, \dots, A_n$  be the attributes in the database.

1.4 Find correlation between  $A_1$  and  $\{A_2..A_n\}$

$A_2$  and  $\{A_3..A_n\}$

$A_3$  and  $\{A_4..A_n\}$

$A_{n-1}$  and  $\{A_n\}$

1.5 Highly correlated attributes must be grouped together.

2. Add sensitive attribute to each column in the database.

3. Perform tuple partitioning after attribute partitioning.



#### IV. EXPERIMENTAL RESULTS

To test the performance of multiple attributes per column slicing schemes a sufficient large Dataset is used. To compare the performance of this scheme with previous schemes we used WEKA tool under which we used classifier on Decision trees and naïve Bayes to calculate classification accuracy for different schemes. We run our experiments on following system configurations: Operating System: Windows XP, RAM size: 1GB, Processor: Intel Core Platform: Java, Net beans IDE 7.3.1.

##### A. Dataset

To verify the results of different schemes, we used the famous dataset that is ADULT Dataset. We downloaded this dataset from UCIrvine machine learning repository. This dataset is about census data of US. It contains about 32000 records and each record has 15 attributes out of which 14 attributes are Quansi-Identifiers and one attribute is sensitive, tuple with the missing values are removed.

Experiment 1: Learning the sensitive attribute(using Naïve Bayes classifier)

In this experiment, we build a classifier on the sensitive attribute, which is "Occupation". We fix  $c = 2$ , the target attribute is Occupation and all other attributes are predictor attributes. Then we compare the quality of the anonymized data (generated by the naïve Bayes) with the quality of the original data, when the target attribute is Occupation. In this experiment we use the Naïve Bayes classifier for classification accuracy

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purpose. We keep all other settings default. 'l-value are the number of sensitive attribute out of which we are taking value for (5,8,10) y axis and on x-axis data in the original format ,sliced format and then in the multiple attribute per column sliced format.

Table IV. Accuracy Vs data anonymization scheme

Methods	Classification Accuracy for 3 l-value		
	5	8	10
Original data	45	45	45
Generalized data	30	27	25
Bucketized data	25	22	20
Sliced data	40	37	35
Multiple attributes per column slicing	43	40	35

Figure 2 shows the plot of classification accuracy with respect to varying l-value between 5, 8, and 10 respectively for sensitive attribute. This plot gives the classification accuracy for the data in three formats using Naïve Bayes classifier. From the plot it is observed that as value of sensitive attribute increases the performance of the slicing deteriorate as compare to multiple attributes per column slicing. From the plot it observed that data in the original format performs constant at all the l- value. Slicing and multiple attributes per column slicing perform satisfactory in this experiment. This confirms that these techniques preserves better data utility in workloads involving sensitive attributes.



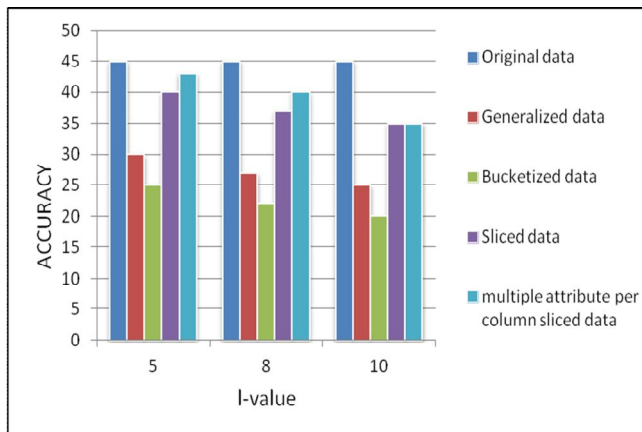


Figure2: classification accuracy Vs data anonymization scheme.

Again we compare the performance of these schemes based on classification time.

Table V. Classification time Vs data anonymization schemes

Methods	Classification time for 3 I-value		
	5	8	10
Original data	21.3	20	18.8
Generalized data	23	21.49	21
Bucketized data	18	12.3	8
Sliced data	12.67	10	8.9
Multiple attributes per column slicing	8	5.78	3.31

Figure 3 shows that multiple attribute per column slicing requires less classification time as compare to previous data anonymization schemes.

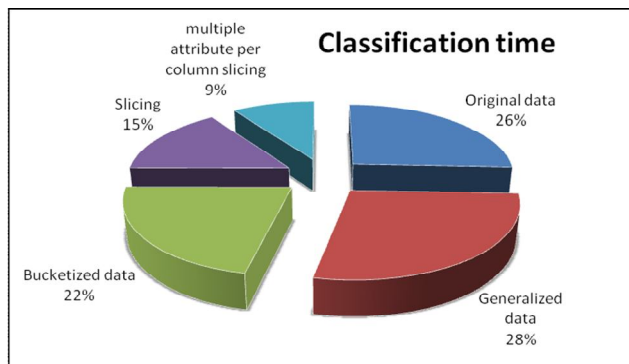


Figure3: classification time Vs data anonymization scheme.

## V. CONCLUSION AND FUTURE SCOPE

With digital data increasing exponentially there is a need of publishing microdata, for preserving privacy and increasing data utility there is much importance to the different data anonymization schemes. We propose in this paper the use of a modification to data anonymization scheme slicing that is multiple attribute per column slicing. The idea behind these schemes is "We calculate the correlation factor for all the attributes and then group them in one column which helps in increasing data utility than the slicing". With our experimental studies we conclude "multiple attribute per column slicing have high accuracy results comparable to previous data anonymization schemes. Implementations were divided into 2 parts. In the first part, implementation of slicing based on MySQL was carried out. An experiment with database shows correct result for above



method. Further experimentation were conducted with MySQL for multiple attribute per column slicing method and found correct result for anonymization.

It is observed that multiple attributes per column gives more data utilization over slicing because it groups highly correlated data in one group and also it gives better classification accuracy when it is applied on weka tool.

From performance comparison of slicing and multiple attributes per column slicing, it is concluded that it preserves privacy better than generalization and bucketization and also gives better utilization. In these techniques characteristics of data are analyzed and used for data anonymization before it published by data publisher.

In slicing where each attribute is in exactly one column. An extension is the notion of overlapping slicing, which duplicates an attribute in more than one columns. This releases more attribute correlations. For example, in Table if, one could choose to include the Disease attribute also in the first column. That is, the two columns are f (Age; Sex; Disease) and (Zip code; Disease). This could provide better data utility, but the privacy implications need to be carefully studied and understood.

Though a number of anonymization techniques have been designed, it remains an open problem on how to use the anonymized data. Another direction is to design data mining tasks using the anonymized data computed by various anonymization techniques.

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## LOGIC FAULT DETECTION WITH DIFFERENCE - SET CODES FOR MEMORY APPLICATIONS

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### 1. INTRODUCTION

A single event upset (SEU) is a change of state caused by ions or electro- magnetic radiation striking a sensitive node in a micro-electronic device, such as in a microprocessor, semiconductor memory, or power transistors. The state change is a result of the free charge created by ionization in or close to an important node of a logic element (e.g. memory "bit") [1]. The error in device output or operation caused as a result of the strike is called an SEU or a soft error.

The SEU itself is not considered permanently damaging to the transistor's or circuits' functionality unlike the case of single event latch up (SEL), single event gate rupture (SEGR), or single event burnout (SEB). These are all examples of a general class of radiation effects in electronic devices called single event effects. Terrestrial SEU arise due to cosmic particles colliding with atoms in the atmosphere, creating cascades or showers of neutrons and protons, which in turn may interact with electronics. At deep sub-micro meter geometries, this affects semiconductor devices in the atmosphere.



In space, high energy ionizing particles exist as part of the natural background, referred to as galactic cosmic rays (GCR). Solar particle events and high energy protons trapped in the Earth's magnetosphere (Van Allen radiation belts) exacerbate the problem. The high energies associated with the phenomenon in the space particle environment generally render increased spacecraft shielding useless in terms of eliminating SEU and catastrophic single event phenomena (e.g. destructive latch-up).

## 1.1 ERROR CONTROL CODING

The general idea for achieving error detection and correction is to add some redundancy (i.e., some extra data) to a message, which receivers can use to check consistency of the delivered message, and to recover data determined to be corrupted. Error-detection and correction schemes can be either systematic or non-systematic: In a systematic scheme, the transmitter sends the original data, and attaches a fixed number of check bits (or parity data), which are derived from the data bits by some deterministic algorithm [5]. If only error detection is required, a receiver can simply apply the same algorithm to the received data bits and compare its output with the received check bits; if the values do not match, an error has occurred at some point during the transmission. In a system that uses a non-systematic code, the original message is transformed into an encoded message that has at least as many bits as the original message.

Good error control performance requires the scheme to be selected based on the characteristics of the communication channel. Common channel models include memory-less models where errors occur randomly and with a certain probability, and

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dynamic models where errors occur primarily in bursts. Consequently, error-detecting and correcting codes can be generally distinguished between random-error detecting/correcting and burst-error- detecting/correcting. Some codes can also be suitable for a mixture of random errors and burst errors.

## **1.2 ERROR CORRECTION SCHEMES**

Error detection is most commonly realized using a suitable hash function (or checksum algorithm). A hash function adds a fixed-length tag to a message, which enables receivers to verify the delivered message by re computing the tag and comparing it with the one provided. There exist a vast variety of different hash function designs. However, some are of particularly widespread use because of either their simplicity or their suitability for detecting certain kinds of errors (e.g., the cyclic redundancy check's performance in detecting burst errors).

Random-error-correcting codes based on minimum distance coding can provide a suitable alternative to hash functions when a strict guarantee on the minimum number of errors to be detected is desired [4]. Described below, are special cases of error-correcting codes: although rather inefficient, they find applications for both error correction and detection due to their simplicity.

### **1.2.1 Repetition codes**

A repetition code is a coding scheme that repeats the bits across a channel to achieve error-free communication. Given a stream of data to be transmitted, the data is divided into blocks of





bits. Each block is transmitted some predetermined number of times. For example, to send the bit pattern "1011", the four-bit block can be repeated three times, thus producing "1011 1011 1011". However, if this twelve-bit pattern was received as "1010 1011 1011" where the first block is unlike the other two – it can be determined that an error has occurred. Repetition codes are very inefficient, and can be susceptible to problems if the error occurs in exactly the same place for each group (e.g., "1010 1010 1010" in the previous example would be detected as correct).

### **1.2.2 Parity bits**

A parity bit is a bit that is added to a group of source bits to ensure that the number of set bits (i.e., bits with value 1) in the outcome is even or odd. It is a very simple scheme that can be used to detect single or any other odd number (i.e., three, five, etc.) of errors in the output. An even number of flipped bits will make the parity bit appear correct even though the data is erroneous. Extensions and variations on the parity bit mechanism are horizontal redundancy checks, vertical redundancy checks, and "double," "dual," or "diagonal" parity.

### **1.2.3 Checksums**

A checksum of a message is a modular arithmetic sum of message code words of a fixed word length (e.g., byte values). The sum may be negated by means of a ones'-complement operation prior to transmission to detect errors resulting in all-zero messages. Checksum schemes include parity bits, check digits, and longitudinal redundancy checks. Some checksum schemes, such as the Luhn algorithm and the Verhoeff algorithm,



are specifically designed to detect errors commonly introduced by humans in writing down or remembering identification numbers.

#### **1.2.4 Cyclic redundancy checks (CRCs)**

A cyclic redundancy check (CRC) is a single-burst-error-detecting cyclic code and non-secure hash function designed to detect accidental changes to digital data in computer networks. It is not suitable for detecting maliciously introduced errors. It is characterized by specification of a so-called generator polynomial, which is used as the divisor in a polynomial long division over a finite field, taking the input data as the dividend, and where the remainder becomes the result. Cyclic codes have favorable properties in that they are well suited for detecting burst errors [3]. CRCs are particularly easy to implement in hardware, and are therefore commonly used in digital networks and storage devices such as drives. Even parity is a special case of a cyclic redundancy check, where the single-bit CRC is generated by the divisor  $x + 1$ .

#### **1.2.5 Cryptographic hash functions**

The output of a cryptographic hash function, also known as a message digest, can provide strong assurances about data integrity, whether changes of the data are accidental or maliciously introduced. Any modification to the data will likely be detected through a mismatching hash value. Furthermore, given some hash value, it is infeasible to find some input data (other than the one given) that will yield the same hash value.

If an attacker can change not only the message but also the hash value, then a keyed hash or MAC can be used for additional



security. Without knowing the key, it is infeasible for the attacker to calculate the correct keyed hash value for a modified message.

### **Error-correcting codes:**

Any error-correcting code can be used for error detection. A code with minimum Hamming distance,  $d$ , can detect up to  $d - 1$  errors in a codeword. Using minimum-distance-based error-correcting codes for error detection can be suitable if a strict limit on the minimum number of errors to be detected is desired.

Codes with minimum Hamming distance  $d = 2$  are degenerate cases of error-correcting codes, and can be used to detect single errors. The parity bit is an example of a single-error-detecting code.

The Berger code is an early example of a unidirectional error(-correcting)code that can detect any number of errors on an asymmetric channel, provided that only transitions of cleared bits to set bits or set bits to cleared bits can occur. A constant-weight code is another kind of unidirectional error-detecting code.

After each input  $8 \times 8$  block of pixels is transformed to frequency space using the DCT, the resulting block contains a single DC component, and 63 AC components. The DC component is predictive encoded through a difference between the current DC value and the previous. This mode only uses Huffman coding models, not arithmetic coding models which are used in JPEG extensions. This mode is the most basic, but still has a wide acceptance for its high compression ratios, which can fit many general applications very well.



## **Loss less Mode**

Quite simply, this mode of JPEG experiences no loss when comparing the source image, to the reproduced image. This method does not use the discrete cosine transform, rather it uses predictive, differential coding. As it is loss less, it also rules out the use of quantization. This method does not achieve high compression ratios, but some applications do require extremely precise image reproduction.

## **Base Line Jpeg Compression**

The baseline JPEG compression algorithm is the most basic form of sequential DCT based compression. By using transform coding, quantization, and entropy coding, at an 8-bit pixel resolution, a high-level of compression can be achieved. However, the compression ratio achieved is due to sacrifices made in quality. The baseline specification assumes that 8-bit pixels are the source image, but extensions can use higher pixel resolutions. JPEG assumes that each block of data input is 8x8 pixels, which are serially input in raster order.

Baseline JPEG compression has some configurable portions, such as quantization tables, and Huffman tables.. By studying the source images to be compressed, Huffman codes and quantization codes can be optimized to reach a higher level of compression without losing more quality than is acceptable. Although this mode of JPEG is not highly configurable, it still allows a considerable amount of compression. Furthermore compression can be achieved by sub sampling chrominance



portions of the input image, which is a useful technique playing on the human visual system.

## **Level Shift**

In order to make the data fit the discrete cosine transform, each pixel value is level shifted by subtracting 128 from its value. The result of this is 8-bit pixels that have the range of -127 to 128, making the data symmetric across 0. This is good for DCT as any symmetry that is exposed will lead toward better entropy compression. Effectively this shifts the DC coefficient to fall more in line with value of the AC coefficients. The AC coefficients produced by the DCT are not affected in any way by this level shifting.

## **2.2 Discrete Cosine Transform (DCT):**

The discrete cosine transform is the basis for the JPEG compression standard. For JPEG, this allows for efficient compression by allowing quantization on elements that is less sensitive [1]. The DCT algorithm is completely reversible making this useful for both loss less and lossy compression techniques.

The DCT is a special case of the well-known Fourier transform. Essentially the Fourier transform in theory can represent a given input signal with a series of sine and cosine terms. The discrete cosine transform is a special case of the Fourier transform in which the sine components are eliminated. For JPEG, a two-dimensional DCT algorithm is used which is essentially the one-dimensional version evaluated twice. By this property there are numerous ways to efficiently implement the software or hardware based DCT module. The DCT is operated

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two dimensionally taking into account 8 by 8 blocks of pixels. The resulting data set is an 8 by 8 block of frequency space components, the coefficients scaling the series cosine terms, known as basis functions. The First element at row 0 and column 0, is known as the DC term, the average frequency value of the entire block. The other 63 terms are AC components, which represent the spatial frequencies that compose the input pixel block, by scaling the cosine terms within the series.

There are two useful products of the DCT algorithm. First it has the ability to concentrate image energy into a small number of coefficients. Second, it minimizes the interdependencies between coefficients. These two points essentially state why this form of transform is used for the standard JPEG compression technique [3]. By compacting the energy within an image, more coefficients are left to be quantized coarsely, impacting compression positively, but not losing quality in the resulting image after decompression. Taking away inter-pixel relations allows quantization to be non-linear, also affecting quantization positively. DCT has been effective in producing great pictures at low bit rates and is fairly easy to implement with fast hardware based algorithms.

An orthogonal transform such as the DCT has the good property that the inverse DCT can take its frequency coefficients back to the spatial domain at no loss. However, implementations can be lossy due to bit limitations and especially apparent in those algorithms in hardware [6]. The DCT does win in terms of computational complexity as there are numerous studies that

have been completed in different techniques for evaluating the DCT.

The discrete cosine transform is actually more efficient in reconstructing a given number of samples, as compared to a Fourier transform. By using the property of orthogonality of cosine, as opposed to sine, a signal can be periodically reconstructed based on a fewer number of samples. Any sine based transform is not orthogonal, and would have to take Fourier transforms of more numbers of samples to approximate a sequence of samples as a periodic signal.

$$Original = \begin{bmatrix} 154 & 123 & 123 & 123 & 123 & 123 & 123 & 136 \\ 192 & 180 & 136 & 154 & 154 & 154 & 136 & 110 \\ 254 & 198 & 154 & 154 & 180 & 154 & 123 & 123 \\ 239 & 180 & 136 & 180 & 180 & 166 & 123 & 123 \\ 180 & 154 & 136 & 167 & 166 & 149 & 136 & 136 \\ 128 & 136 & 123 & 136 & 154 & 180 & 198 & 154 \\ 123 & 105 & 110 & 149 & 136 & 136 & 180 & 166 \\ 110 & 136 & 123 & 123 & 123 & 136 & 154 & 136 \end{bmatrix} \quad --1$$

As the signal we are sampling, the given image, there is actually no real periodicity. If the image is run through a Fourier transform, the sine terms can actually incur large changes in amplitude for the signal, due to sine not being orthogonal. DCT will avoid this by not carrying this information to represent the changes. In the case of JPEG, a two-dimensional DCT is used, which correlates the image with 64 basis functions.

The DCT equation can be represented in matrix format. The matrix of DCT is



$$T = \begin{bmatrix} .3536 & .3536 & .3536 & .3536 & .3536 & .3536 & .3536 & .3536 \\ .4904 & .4157 & .2778 & .0975 & -.0975 & -.2778 & -.4157 & -.4904 \\ .4619 & .1913 & -.1913 & -.4619 & -.4619 & -.1913 & .1913 & .4619 \\ .4157 & -.0975 & -.4904 & -.2778 & .2778 & .4904 & .0975 & -.4157 \\ .3536 & -.3536 & -.3536 & .3536 & .3536 & -.3536 & -.3536 & .3536 \\ .2778 & -.4904 & .0975 & .4157 & -.4157 & -.0975 & .4904 & -.2778 \\ .1913 & -.4619 & .4619 & -.1913 & -.1913 & .4619 & -.4619 & .1913 \\ .0975 & -.2778 & .4157 & -.4904 & .4904 & -.4157 & .2778 & -.0975 \end{bmatrix} \text{ ---- (2)}$$

The first row (i: j) of the matrix has all the entries equal to 1/8 as expected from The columns of T form an orthogonal set, so T is an orthogonal matrix. When doing the inverse DCT the orthogonality of T is important, as the inverse of T is Tr, which is easy to calculate.

### 2.3 Procedure for doing the DCT on an 8x8 Block:

Before we begin, it should be noted that the pixel values of a black-and-white image range from 0 to 255 in steps of 1, where 0 and pure white by represent pure black 255. Thus it can be seen how a photo, illustration, etc. can be accurately represented by these 256 shades of gray.

Since an image comprises hundreds or even thousands of 8x8 blocks of pixels, the following description of what happens to one 8x8 block is a microcosm of the JPEG process what is done to one block of image pixels is done to all of them, in the order earlier specified. Now, let's start with a block of image-pixel values. This particular block was chosen from the very upper-left-hand corner of an image.



$$Q_{50} = \begin{bmatrix} 16 & 11 & 10 & 16 & 24 & 40 & 51 & 61 \\ 12 & 12 & 14 & 19 & 26 & 58 & 60 & 55 \\ 14 & 13 & 16 & 24 & 40 & 57 & 69 & 56 \\ 14 & 17 & 22 & 29 & 51 & 87 & 80 & 62 \\ 18 & 22 & 37 & 56 & 68 & 109 & 103 & 77 \\ 24 & 35 & 55 & 64 & 81 & 104 & 113 & 92 \\ 49 & 64 & 78 & 87 & 103 & 121 & 120 & 101 \\ 72 & 92 & 95 & 98 & 112 & 100 & 103 & 99 \end{bmatrix} \text{ ---- (3)}$$

Because the DCT is designed to work on pixel values ranging from -128 to 127, the original block is leveled off by subtracting 128 from each entry. This results in the following matrix

$$M = \begin{bmatrix} 26 & -5 & -5 & -5 & -5 & -5 & -5 & 8 \\ 64 & 52 & 8 & 26 & 26 & 26 & 8 & -18 \\ 126 & 70 & 26 & 26 & 52 & 26 & -5 & -5 \\ 111 & 52 & 8 & 52 & 52 & 38 & -5 & -5 \\ 52 & 26 & 8 & 39 & 38 & 21 & 8 & 8 \\ 0 & 8 & -5 & 8 & 26 & 52 & 70 & 26 \\ -5 & -23 & -18 & 21 & 8 & 8 & 52 & 38 \\ -18 & 8 & -5 & -5 & -5 & 8 & 26 & 8 \end{bmatrix} \text{ ----- (4)}$$

We are now ready to perform the Discrete Cosine Transform, which is accomplished by matrix multiplication

$$D = TMT' \text{ ---- (5)}$$

In matrix M is first multiplied on the left by the DCT matrix T from the previous section; this transforms the rows. The columns are then transformed by multiplying on the right by the transpose of the DCT matrix. This block matrix now consists of 64 DCT coefficients,  $c_{ij}$ , where j and I range from 0 to7. The top-left coefficient,  $c_{00}$ , correlates to the low frequencies of the original image block. As we move away from  $c_{00}$  in all directions, the DCT coefficients correlate to higher and higher frequencies of



the image block, where c77 corresponds to the highest frequency. It is important to note that the human eye is most sensitive to low frequencies, and results from the quantization step will reflect this fact.

## 2.4 Quantization:

Our 8x8 block of DCT coefficients is now ready for compression by quantization. A remarkable and highly useful feature of the JPEG process is that in this step, varying levels of image compression and quality are obtainable through selection of specific quantization matrices [5]. This enables the user to decide on quality levels ranging from 1 to 100, where 1 gives the poorest image quality and highest compression, while 100 gives the best quality and lowest compression. As a result, the quality/compression ratio can be tailored to suit different needs. Subjective experiments involving the human visual system have resulted in the JPEG standard quantization matrix. With a quality level of 50, this matrix renders both high compression and excellent decompressed image quality.

If, however, another level of quality and compression is desired, scalar multiples of the JPEG standard quantization matrix may be used. For a quality level greater than 50 (less compression, higher image quality), the standard quantization matrix is multiplied by  $(100 - \text{quality level})/50$ . For a quality level less than 50 (more compression, lower image quality), the standard quantization matrix is multiplied by  $50/\text{quality level}$ . The scaled quantization matrix is then rounded and clipped to have positive integer values ranging from 1 to 255. For example;



the following quantization matrices yield quality levels of 10 and 90.

$$Q_{10} = \begin{bmatrix} 80 & 60 & 50 & 80 & 120 & 200 & 255 & 255 \\ 55 & 60 & 70 & 95 & 130 & 255 & 255 & 255 \\ 70 & 65 & 80 & 120 & 200 & 255 & 255 & 255 \\ 70 & 85 & 110 & 145 & 255 & 255 & 255 & 255 \\ 90 & 110 & 185 & 255 & 255 & 255 & 255 & 255 \\ 120 & 175 & 255 & 255 & 255 & 255 & 255 & 255 \\ 245 & 255 & 255 & 255 & 255 & 255 & 255 & 255 \\ 255 & 255 & 255 & 255 & 255 & 255 & 255 & 255 \end{bmatrix} \text{----- (6)}$$

$$Q_{90} = \begin{bmatrix} 3 & 2 & 2 & 3 & 5 & 8 & 10 & 12 \\ 2 & 2 & 3 & 4 & 5 & 12 & 12 & 11 \\ 3 & 3 & 3 & 5 & 8 & 11 & 14 & 11 \\ 3 & 3 & 4 & 6 & 10 & 17 & 16 & 12 \\ 4 & 4 & 7 & 11 & 14 & 22 & 21 & 15 \\ 5 & 7 & 11 & 13 & 16 & 12 & 23 & 18 \\ 10 & 13 & 16 & 17 & 21 & 24 & 24 & 21 \\ 14 & 18 & 19 & 20 & 22 & 20 & 20 & 20 \end{bmatrix} \text{----- (7)}$$

Quantization is achieved by dividing each element in the transformed image matrix D by the corresponding element in the quantization matrix, and then rounding to the nearest integer value. For the following step, quantization matrix  $Q_{50}$  is used. Recall that the coefficients situated near the upper-left corner correspond to the lower Frequencies  $\alpha$  to which the human eye is most sensitive  $\alpha$  of the image block. In addition, the zeros represent the less important, higher frequencies that have been discarded, giving rise to lossy part of compression. As mentioned earlier only the non-zero components are used for reconstruction of the image. The number of zeros given by each Quantization matrices varies.

## 2.5 Encoder:

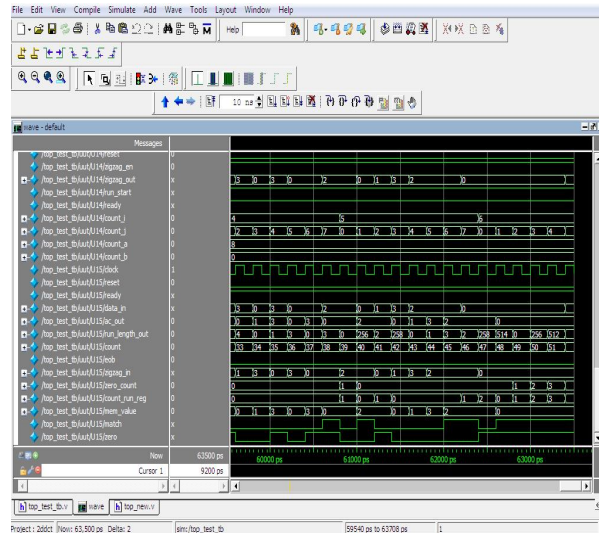
The quantized matrix is now ready for the final step of compression. The entire matrix coefficients are coded into the



binary format by the Encoder. After quantization it is quite common that maximum of the coefficients are equal to zeros [6]. JPEG takes the advantage of encoding quantized coefficients in zigzag order. Entropy coding is a special form of lossless data compression. It involves arranging the image components in a "zigzag" order employing run-length encoding (RLE) algorithm that groups similar frequencies together, inserting length coding zeros, and then using Huffman coding on what is left. The JPEG standard also allows, but does not require decoders to support, the use of arithmetic coding, which is mathematically superior to Huffman coding. However, this feature has rarely been used as it was historically covered by patents requiring royalty-bearing licenses, and because it is slower to encode and decode compared to Huffman coding. Arithmetic coding typically makes files about 5-7% smaller. The previous quantized DC coefficient is used to predict the current quantized DC coefficient. The difference between the two is encoded rather than the actual value. The encoding of the 63 quantized AC coefficients does not use such prediction differencing.

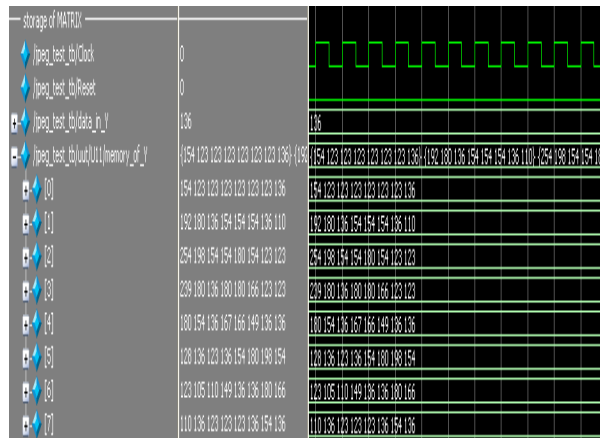
### 3. SYNTHESIS RESULTS

This plot explains about the output storage of all pixel values



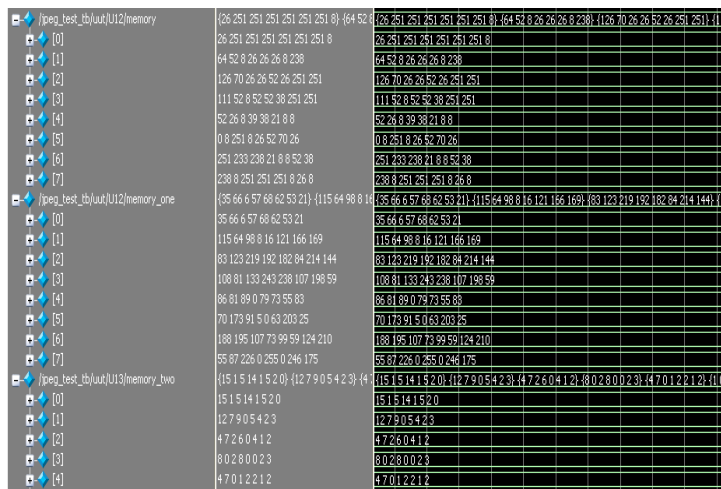
**Fig-3** Simulation of storage pixel values

This plot explains about the output of discrete cosine transform values jpeg data for compression.



**Fig-4** Discrete cosine transform of JPEG in data compression

This plot explains about the output of quantization and encoding data.



**Fig-5** Simulation of quantization and encoding data

## 4. CONCLUSION

In this paper, we had done the data compression using lossless method where JPEG data remains retrieved without losing the information. This simulated, synthesized and implemented by VERILOG language using XILINX ISE Tool. We have used Discrete Cosine transform (DCT) for the data compression and quantization. This data is encoded and which are shown in the simulation results in VERILOG. The data compression and transmission is obtained in parallel and pipelining process with different algorithms used. We can further extend the implementation for proposed data compression using different techniques.



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## **GREEN MARKETING IN AUTOMOBILE INDUSTRY: UNDERSTANDING IMPLEMENTATION, CHALLENGES, AND BENEFITS IN INDIAN CONTEXT THROUGH LITERATURE REVIEW**

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### **INTRODUCTION:**

The Automotive Industry globally is one of the largest industries and because of its deep forward and backward linkages with the rest of the industry; it has as strong multiplier effect and is one of the major drivers for economic growth. (NEMM 2020). The Indian automotive industry has made tremendous progress in the last decade. India has today emerged as the 6th largest vehicle manufacturer globally with the automotive industry contributing 21% approximately excise duty collection. This sector is important for economic growth and development because of its high contribution to the national GDP, employment generation and as it meets the needs of the logistics and transportation industry, which is the life line of the economy. The growth of the auto industry which, at present, contributes 22% to the manufacturing GDP will be critical for realizing the target, envisaged in the new Manufacturing Policy, of increasing the share of manufacturing in overall economy to 25% by 2022.(NEMM 2012).





Along-with consistent growth, automobile industry has a strong impact on the environment. 'Global warming' 'Ozone Layer Depletion' 'Sustainable development', 'Ecology' and 'Recycling' are the terms almost everyone is quite familiar now. As society becomes more concerned with the natural environment, businesses have begun to modify their behaviour in an attempt to address society's "new" concerns. There is one business area where environmental issues have received a great deal of discussion in the popular and professional press is marketing. Terms like "Green Marketing" and "Environmental Marketing" appear frequently in the popular press. Some businesses have been quick to accept concepts like environmental management systems and waste minimization, and have integrated environmental issues into all organizational activities. (Polonsky 1994) The industries who claim that they are environment friendly and have concern for society are known as green industries, their marketing philosophy is termed as green marketing and their environment friendly products are called as green products.(Saxena , Khandelwal 2010)

Many governments around the world have become so concerned about green marketing activities that they have attempted to regulate them (Polonsky 1994a). For example, in the United States (US) the Federal Trade Commission and the National Association of Attorneys-General have developed extensive documents examining green marketing issues (FTC 1991, NAAG 1990).



## WHAT IS GREEN MARKETING

Green Marketing is the study of all effort to consume, produce, distribute promote, package and reclaim products in a manner that is sensitive or responsive to ecological concerns. The inclusion of "all efforts to consume" recognizes that many entities are involved in green marketing.

According to American Marketing Association, green marketing is "the marketing of products that are presumed to be environmentally safe for the consumers". Thus green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising. Other similar terms used are Environmental Marketing and Ecological Marketing.

Green Marketing is the study of the positive and negative aspects of marketing activities on pollution, energy depletion and non-energy resource depletion (Karl E. Henion II, and Thomas C. Kinnear 1976b 1).

Green marketing, also alternatively known as environmental marketing and sustainable marketing, refers to an organization's efforts at designing, promoting, pricing and distributing products that will not harm the environment (Pride and Ferrell, 1993).

Green marketing is also defined as the application of marketing tools to facilitate exchanges that satisfy organizational and individual goals in such a way that the preservation, protection, and conservation of the physical environment are upheld (Mintu and Lozada, 1993).



Through this definition, Mintu and Lozada note that green marketing goes beyond image building activities. Green or Environmental Marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment. Green Marketing refers to holistic marketing concept where in the production, marketing, consumption and disposal of products and services happen in a manner that it is less detrimental to the environment. (Polonsky 1994b, 2). In a nutshell According to (Robert Dashlstrom2011) green marketing management as the process of planning and executing the marketing mix to facilitate the consumption, production, distribution ,promotion packaging and product reclamation in a manner that is sensitive or responsive to ecological concerns.

## **OBJECTIVES OF THE STUDY**

( a ) This study is an attempt to understand the green marketing concept, its relevant aspects and specifically the practices its initiation and implementation in automobile industry in Indian context with extensive literature review (b) While understanding the concept and significance of green marketing, insights have been provided about the global perspective on green marketing.(c) This study also attempts to identify challenges and benefits of green marketing in Indian context through Literature Review



## **SIGNIFICANCE OF GREEN MARKETING**

The question of why green marketing has increased in importance is quite simple and relies on the basic definition of Economics: Economics is the study of how people use their limited resources to try to satisfy unlimited wants. [McTaggart, Findlay and Parkin 1992, 24]

Thus mankind has limited resources on the earth, with which she/he must attempt to provide for the worlds' unlimited wants. (There is extensive debate as to whether the earth is a resource at man's disposal, for example, see Gore 1993.) In market societies where there is "freedom of choice", it has generally been accepted that individuals and organizations have the right to attempt to have their wants satisfied. As firms face limited natural resources, they must develop new or alternative ways of satisfying these unlimited wants. Ultimately green marketing looks at how marketing activities utilize these limited resources, while satisfying consumers wants, both of individuals and industry, as well as achieving the selling organization's objectives. So green marketing is inevitable. There is growing interest among the consumers all over the world regarding protection of environment. Worldwide evidence indicates people are concerned about the environment and are changing their behaviour. As a result of this, green marketing has emerged which speaks for growing market for sustainable and socially responsible products and services. In addition environmental activism has led to legislations and hence firms are now required to comply with the regulatory mechanism. So green marketing has become "Need of the Hour".

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## **GREEN MARKETING: GLOBAL PERSPECTIVE**

A growing number of companies are making the paradigm shift in values - from anthropocentric to biocentric (which means from company centric to eco centric) not only because it is the right thing to do environmentally, but it synergistically benefits the bottom line. Ciba-Geigy, Coca Cola, ConAgra, Dow, Du Pont, Dwight-Church, Electrolux, S.C.Johnson, Kroeger, McDonald's, Mitsubishi, Norsk Hydro, Nippon Steel, Pacific Gas and Electric, Procter & Gamble, 3M, and Westinghouse are just a few of the companies that have experienced the benefits of a biocentric economic philosophy (Kleiner,1991; Porter,1991).But the battle has just begun. There is much work to do and time is not on our side. These companies and many of their colleagues have begun the journey. There are many miles yet to go and the path is strewn with many stumbling blocks-ecological, economic, technological, political, and cultural. The old ways are no longer adequate. It's time to think a new. We need to reorder our values to a paradigm that recognizes the partnership of humankind and earth. Marketers, because of their catalytic position can and should take a leadership position; not only with their companies' profit, but to preserve the earth and its biosphere. If humans are to have harmony with the earth, its resources, and its biosphere, then we should have the foresight to appreciate its underpinning character. We need each other, not only for survival but also for continued growth-economically, socially, mentally, biocentrically, and spiritually (Ginsberg and Bloom, 2004).



## **Green Marketing Global Leadership Examples:**

In view of global climate change, Honda Japan strives to be a leader in environmental and energy technologies through its product development, production, and other activities. It is committed to develop products with the lowest-in-use CO2 emissions through corporate activities. BMW reduced use of resources and emissions levels per vehicle by 26% between 2006 and 2010. This figure exceeds the target set for 2010. Korean Hyundai Motor adopted a zero wastewater discharge system at its plant to become a clean production facility. They have introduced a comprehensive manufacturing environment management system to oversee various environment-related performance indicators related to production. They include greenhouse gas emissions, water use, and discharge of air pollutants, water pollutants and waste.

Kodak has released a new green and yellow leaf logo to signify the environmental benefits of its products. Restaurants can reduce their environmental impact and tell their 'green' story to consumers by participating in the Green Seal certification program for green restaurants. China's Suning Appliance is partnering with South Korea's LG Group to develop 'green' household appliances for the Chinese market. U.S. consumers are buying the same or more environmentally responsible products, regardless of region, age, gender or state of the economy. French home builders are increasingly looking for affordable green materials as demand for traditional construction materials declines in favor of more environmentally friendly offerings. USA Colleges are using their green credentials to burnish their

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reputations with prospective students. More potato growers in Europe are looking to expand their green marketing efforts in reaction to increasing demand from consumers.

Ford Motor Company Ford Motor Company is requiring ISO 14001 certification from all of its suppliers with manufacturing facilities. ISO 14001 is the environmental management standard under which independent auditors evaluate an organization's environmental performance in a systematic way. Ford developed and provided ISO 14001 Awareness Training to allow suppliers to benefit from Ford's experience in achieving ISO 14001 certification at its plants.

## **GREEN MARKETING IN AUTOMOBILE SECTOR: INDIAN SCENARIO**

The automobile constitutes an industrial product that provokes both - considerable economic wealth creation and severe burdens to the natural environment. Although governments worldwide regard the capacity of the auto industry to generate jobs as a political asset to be preserved, they have also pressured auto manufacturers to improve their environmental performance. The industry has responded to stricter governmental regulations, voluntary agreement and collaborative R & D initiatives by seeking to adopt cleaner manufacturing technologies and investigating in environment-related research (Wells, 2004). In addition, competitive pressures ensure that every major high-volume car manufacturer is working towards increased levels of resource productivity. Although it is difficult to become 100 % environment friendly, an automobile industry is trying to cope with the challenge of implementing ecology in holistic way from

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production to consumption due to growing concern of consumers. Automobile manufacturers therefore need to strike a difficult balance between competing objectives: to mitigate climate change, reduce urban air pollution, enhance energy security and strengthen the competitiveness of national auto industries.

Automobile industry's main focus is on sustainable development through optimal resource allocation, energy efficiency and recycling. India, like China, is one of the fastest growing automobile markets and vibrant economy in the world. India is emerging fast as hub for Global Vehicle Programs. It is expected that by 2020, auto component industry will be USD 113 billion (ACMA 2012-13). Growing Engineering and IT capability for designing and manufacturing presents huge opportunity to partner in product and process innovation. It also presents opportunity to outsource for OEMs (Original Equipment Manufacturers) and Tier 1 vendors. (ACMA 2012-13). In 2010, the Government of India announced an intensive scheme to promote the development and sale of electric vehicles in India. Broadly speaking the decision was to give a 20% rebate on ex-factory price of electric vehicles. Hybrid vehicle parts are exempted from basic custom duty and concessional central excise duty of 4% provided to specific parts of electric vehicles in 2010 budget. In the 2011 Union Budget, a set of new incentives were declared for electric vehicles (environment friendly vehicles) - full exemption of basic custom duty and concessional excise duty of 4% to batteries imported for electric vehicles in replacement market. The auto component industry had to be content with a meager growth of 5.6 percent during 2012-13, with turnover of





INR 2,16,100 crores (USD 39.7 billion), notwithstanding the average inflation of over 3% in vehicles prices.(ACMA 2012-13)

## **Examples of Leadership across India**

### **Maruti Suzuki's green initiatives:**

Maruti Suzuki has strived towards offering high quality, latest technology and value for money products to its customers. The company plans to design cars that are fuel efficient and lower on CO2 emissions. It also has plans to develop hybrid, electrical, and multi-fuel engines. Maruti Suzuki re-entered European market with a global car that is fuel-efficient and lower on CO2 emissions. The company has now started using CNG Kits. For ecological environment: company is practicing 3R- reduce, reuse, and recycle. Continuous process of promoting 100% recyclable and reusable car parts. Targets reducing fresh water consumption and implement rain water harvesting.

**Honeywell:** Honeywell offers a full automation solution for alternative fuel plants. Honeywell has intimate knowledge of process technologies including catalytic cracking, hydrocracking and hydrotreating, while leadership in the chemicals and life sciences markets provides expertise in dehydration, fermentation and distillation. Honeywell can deliver automation solutions optimized around these process technologies to deliver operational readiness, efficiency and reliability to customers worldwide.

**Tata Motors :**Tata Motors is continuously taking efforts towards environment protection these efforts are soil and water conservation programmes and extensive tree plantation drives.

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Company is committed to restoring and preserving environmental balance, by reducing waste and pollutants, conserving resources and recycling materials. Company has set up effluent treatment facilities in its plants, to avoid release of polluted water into the ecosystem. In Pune, the treated water is conserved in lakes attracting various species of birds from around the world thus turning the space into a green belt. With the intention of protecting the environment, Tata Motors has upgraded the performance of its entire range of four and six cylinder engines to meet international emission standards.

**Praj Industries:** Praj is a global Indian company that offers innovative solutions to significantly add value in bio-ethanol, alcohol, brewery plants, process equipment and water and wastewater treatment systems for customers, worldwide. Company is also in the process of upgrading their units and R&D centres to "green" technology to save energy and emit less harmful substance. They are also working on upgrading our products to more energy saving from the current ones

**Bajaj Auto Ltd.:** Bajaj has implemented the DTSi technology, the mother technology for DTS-Fi and DTS-Si engine is highly fuel efficient. The engine technology also helps in reducing emissions and keeping the environment clean & green. Company's plants have adhered to ISO 9001 (Quality systems) and ISO-4001 (Environment system). Bajaj Auto is determined to increase fuel economy and curb emissions across its entire product line up. Alternate fuels are good for the environment, reducing emissions and dependence on oil. The company has also developed three wheelers which use alternate fuels such as CNG



and LPG. Alternate fuels: Bajaj Auto is determined to increase fuel economy and curb emissions across its entire product line up. Alternate fuels are good for the environment, reducing emissions and dependence on oil. The company has also developed three wheelers which use alternate fuels such as CNG and LPG.

**Bharat Forge:** As Bharat Forge evolves, company is expanding and strengthening its position on the global stage, balancing commercial ambitions with environmental concern. Propelling its dynamic evolution is "innovation." Company's R&D team has been developing technologies to minimize the carbon footprint and produce light weight products that translate into lower energy consumption. Bharat Forge along with KPIT Cummins has indigenously developed new hybrid technology solution that enables both existing and new vehicles to dramatically increase fuel efficiency and engine performance, while significantly decreasing green house gas (GHG) emissions.

**Cummins India Ltd:** company has taken initiative in waste management programmes as a part of it ,A Six Sigma Project on waste management has been launched focusing on re-use of plastic generated internally. Project promises the following deliverables: Partnering with a small scale engineering company called Kulkarni Engineers for manufacturing plastic bags which would be used by Cummins for packaging engine components. It has been estimated that out of the 3 tons of plastic scrap generated per month, nearly 1.5 tons of plastic can be recycled, which after processing yields nearly 1.2 tons of essential plastic granules. The plastic granules could be used for manufacturing new plastic bags.

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**Volkswagen India:** Environmental protection relating to the automobile includes all measures to protect and preserve the natural bases of human lives. Proactive environmental protection prevents the occurrence of negative influences such as noise and emissions through advance planning or new technologies (water-soluble paints, advanced engine management, economical driving). Corrective environmental protection avoids the negative effects of existing conditions (such as effluent treatment, catalytic converters, noise insulation). In the automotive industry, environmental protection starts when a new vehicle or production facility is planned and built, and continues through to the reprocessing and recycling of the materials previously installed or used. The driver can also make a contribution during use through economical and conscientious operation.

## **THE CHALLENGE AHEAD IN INTRODUCING GREEN MARKETING IN AUTOMOBILE INDUSTRY IN INDIA**

India's electric auto industry is really very small. The only manufacturer in India that produces Electric Vehicle is Mahindra REVA. There are a few makers in the two wheeler segment such as Yo Bykes, Hero Electric, Ampere and Lohia Auto.

The biggest challenge to the manufacturers is to convince an Indian consumer to pay a premium to go electric, CNG or alternative fuel other than conventional. On the other hand, the biggest challenge to the government will be to provide the necessary infrastructure to support EVs like charging stations that are spread across the country.



According to Shweta Batra & Amit Shankar (2012) Technological support to create green marketing does not exist to that extend and automobile companies haven't invested towards it. Whatever technology available is too expensive to be introduced in the Indian market. Already existing fuel cars network can't be replaced overnight. Awareness amongst people towards emissions, its causes, health effects, economic damage etc. is very limited in developing countries like India. Lack of a comprehensive strategy to encourage the development of a green transport sector. Lack of understanding of the policy tools that can be used to influence behavioural change, e.g., the role of (a) taxation or subsidies and (b) other regulatory, economic or persuasive measures appealing to economic interests and moral/ethical considerations. Failure to realize the full potential of technological changes or innovations leading to cleaner fuels and greener vehicles. Lack of appreciation of the role of and need for public investment in infrastructure, e.g. pedestrian and bicycle ways, light rail, good bus service and other forms of mass transit. No green fuel network or innovation present.

Along with the above some more challenges for Green Marketing Practices noticed are (Mary Wanjiru Kinoti 2011):

i) In general all the green marketing strategies are expensive and difficult to implement in the short run. ii) The environmental benefits are intangible, indirect or insignificant to consumers for example, consumers cannot see the emissions being spared when they use energy saving appliance. iii) Environmental benefits are difficult to measure or quantify. iv) Some strategies (e.g. promotion) are subject to manipulation for example, some

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marketers use false environmental claims in order to gain competitive advantage.v) The success of green marketing depends on several stakeholders who must work as a team. These include; general public, employees, retailers, government, environmental groups, and suppliers. Any group can derail the exercise. vi) The costs saved through recycling are doubtable.

### **GREEN MARKETING BENEFITS:**

(J. Ottman, 1997) has highlighted various benefits of adopting green marketing as follows

Environmental concerns present both challenges and opportunities. Enlightened Chief Executive Officers have taken advantage of opportunities by using green marketing strategies which has resulted in various benefits

**Profitability:** Green based products create less waste, use fewer raw materials, and saves energy.

**Competitive Advantage:** Companies that are first to put their environmental innovation on the shelf enjoys competitive advantage.

**Increased Market Share:** Brand loyalty is near all time low. According to a poll conducted by the Porter Novelli, consumers viewed company's record on the environment as an important determinant of their purchase decision.

**Better Products:** Green based products are higher in quality in terms of energy saving, performance, convenience, safety, etc.



**Personal Rewards:** Green products offer consumers with the benefits of healthier, more fulfilled lives and power to make the world a better place.

Better **Physical Environment:** Well co-ordinated use of all green marketing strategies will result in better physical environment in terms of reduced air and water pollution, waste energy depletion, global warming, deforestation, depletion of natural resources, and rate of landfills.

**Sustainable Development:** meeting the needs of the present without compromising the ability of future generations to meet their needs.

Robert Dashlstrom (2011) highlights that green marketing has a positive influence on multiple participants in economy. The environment, developing economies, consumers, corporate strategy, the product production process, and supply chain benefit from green marketing.

**Environmental Benefits:** GM initiatives focused on product development strategies reduce the need to rely on these forms on energy. For example, new appliances are designed with fuel efficiencies that markedly reduce energy consumption. Green marketing reduces air pollution in multiple ways. For example New York Mayor Bloomberg has called the complete replacement of taxis with hybrid car with 2012. These hybrid will reduce New York city carbon dioxide emissions by 215,000 tons while doubling cab gas mileage. This efficiency means fewer emission and lower air pollution.



**Consumer benefits:** In several ways consumer will get benefit from green marketing. These benefits often influence consumer decision making,

## **CONCLUSION:**

It is quite evident from extensive literature review and leading automobile companies that automobile industries in India are quite positive while initiating and implementing green marketing practices. Though India is being developing nation where majority of the automobile companies are partially aware of green marketing concept they have initiated and implemented green practices in numerous ways.

Companies across developed nation had already begun and developing nation like India has an increasing focus on green marketing practices in various ways like companies are committed to develop products with the lowest-in-use CO<sub>2</sub> emissions through corporate activities. They have tried to reduce use of resources and emissions levels per vehicle. Some of them have adopted a zero wastewater discharge system at its plant to become a clean production facility also have introduced a comprehensive manufacturing environment management system to oversee various environment-related performance indicators related to production. It includes greenhouse gas emissions, water use, and discharge of air pollutants, water pollutants and waste. Companies are requiring ISO 14001 certification from all of its suppliers with manufacturing facilities. Environmental awareness training programmes for suppliers has been arranged by OEM's (original equipment manufacturer).





Automobile companies across India feel more concerned about environment. Thus an environmental committed organization may not only produce goods that have reduced their detrimental impact on the environment, they may also be able to pressure their suppliers to behave in a more environmentally "responsible" fashion. Final consumers and industrial buyers also have the ability to pressure organizations to integrate the environment into their corporate culture and thus ensure all organizations minimize the detrimental environmental impact of their activities.

Though various challenges are there for initiation and implementation of green marketing green marketing has a positive influence on multiple participants in economy. The environment, developing economies, consumers, corporate strategy, the product production process, and supply chain benefit from green marketing. Environmental concerns present both challenges and opportunities. Some of the significant benefits companies have acquired from green marketing are profitability, increased market share, customer satisfaction and competitive advantage, which will provide an edge over the competitors.

With the threat of global warming looming large, it is extremely important that green marketing becomes the norm rather than an exception or just a fad. Marketers also have the responsibility to make the consumers understand the need for and benefits of green products as compared to non-green ones. In green marketing, consumers are willing to pay more to maintain a cleaner and greener environment. By practicing the philosophy of

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green marketing, industries can contribute to economic growth, social prosperity and environment protection. Through green marketing they will support in resolving the conflict between the various competing goals, and the simultaneous pursuit of economic prosperity, environmental quality and social equity, the three dimensions of Sustainability. Finally, consumers, industrial buyers and suppliers need to intensify the efforts to minimize the negative effects of the environment-friendly marketing in the context of green marketing assuming even more importance and relevance in developing countries like India.

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## EFFECT OF GENDER ON FAMILY BUYING DECISION

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### INTRODUCTION

Consumer Behavior may be defined as “the interplay of forces that takes place during a consumption process, within a consumers’ self and his environment.

- This interaction takes place between three elements viz. knowledge, affect and behavior;
- It continues through pre-purchase activity to the post purchase experience;
- It includes the stages of evaluating, acquiring, using and disposing of goods and services”.

The “consumer” includes both personal consumers and business/industrial/organizational consumers.

Consumer behavior explains the reasons and logic that underlie purchasing decisions and consumption patterns; it explains the processes through which buyers make decisions.

The study includes within its purview, the interplay between cognition, affect and behavior that goes on within a consumer during the consumption process: selecting, using and disposing of goods and services.

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**Cognition:** This includes within its ambit the “knowledge, information processing and thinking” part; It includes the mental processes involved in processing of information, thinking and interpretation of stimuli (people, objects, things, places and events). In our case, stimuli would be product or service offering; it could be a brand or even anything to do with the 4Ps.

**Affect:** This is the “feelings” part. It includes the favorable or unfavorable feelings and corresponding emotions towards a stimulus (eg. towards a product or service offering or a brand). These vary in direction, intensity and persistence.

**Behavior:** This is the “visible” part. In our case, this could be the purchase activity: to buy or not a buy (again specific to a product or service offering, a brand or even related to any of the 4 Ps).

The interaction is reciprocal between each of the three towards each other and with the environment.

### **Basic Components**

1. **Decision making (Cognitive and Affect):** -this includes the stages of decision making: Need recognition, Information search, Evaluation of alternatives, Purchase activity, Post purchase behavior.
  2. **Actual purchase (Behavior):** -this includes the visible physical activity of buying of goods and/or service. It is the result of the interplay of many individual and environmental determinants which are invisible.
  3. **Individual determinants and environmental influences:** The environmental factors affect the decision process indirectly, through way of affecting individual determinants.
  4. **Buying roles:** There are five buying roles, viz., Initiator, Influencer, Decider, User, and Buyer.
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The initiator is the person who identifies that there exists a need or want; the influencer is the one who influences the purchase decision, the actual purchase activity and/or the use of the product or service; the decider is the one who decides whether to buy, what to buy, when to buy, from where to buy, and how to buy; the buyer is the one who makes the actual purchase; and, the user is the person (s) who use the product or service. These five roles may be played by one person or by different persons. A person may assume one or more of these roles. This would depend on the product or service in question

According to **Cart Wright**, *"Influence has been defined as something that is inferred when one person acts in such a way as to change the behavior of another in some intended manner"*. Thus influence involves actions by family members that make a difference during the decision making process. The decision making process follows a number of stages:

1. Problem recognition
2. Search for information
3. Evaluation of alternatives
4. Final choice

The decision to purchase a commodity or service by family or household depends on the various roles played by a household member in the purchase, consumption and influence of products. The stages in the decision making process are usually linked to the decision making roles.

These roles are:

1. Initiator : -Family member(s) who recognizes the problem or need for an item.



2. Influencers :- Family member(s) who provide information to other member about a product or service.
3. Gate keepers :- Family member(s) who control the flow of information about a product or service into the family.
4. Deciders :- Family member(s) with the power to determine unilaterally or jointly whether to shop for, purchase, use consume, or dispose of a specific product or service.
5. Buyers :- Family member(s) who make the actual purchase of a particular product or service.
6. Preparers :- Family member(s) who transform the product into a form suitable for consumption by other family members.
7. Users :- Family member(s) who use or consume a particular product or service.
8. Maintainers :- Family member(s) who service or repair the product so that it will provide continued satisfaction.
9. Disposers :- Family member(s) who initiate or carry out the disposal or discontinuation of a particular product or service.





The number and identity of the family members who perform these roles vary from family to family and from product to product. In some cases, a single family member will independently assume a number of roles; in other cases, a single role will be performed jointly by two or more family members. In certain other cases, one or more of these basic roles may not be required.

However, in general, people might play five roles in a buying decision as initiator, influencer, decider, buyer and user. Traditionally household decision making or family decision making has been categorized as *husband dominant*, *wife dominant* or *joint and autonomous* (either husband or wife is equally likely to make an individual decision). Until recently, most studies have ignored the influence of children. Today children exert a substantial influence on household buying decisions. Thus we need to recognize the new category of household decision making that is "*child dominant*"

Studies of family and domestic consumption have tended to neglect the role played by children but today children are emerging as the most powerful influencers in household buying decisions. Gone are the days when a child was thought to be adjunct of parents, an amorphous piece of clay, but in present times a child might be identified as a protagonist in the buying decision making process in this changed environment. She/he is so choosy, at times raises tantrums, being attracted by new concepts, refuses to be taken for granted and executes a greater degree of freedom in choosing the products for himself/herself. The changing socio-economic, political and economic orders have

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transformed the child into a sophisticated consumer. They can dominate household buying and can influence their parents' purchase of all kinds from cars to toys to groceries as well as determine their households' television and entertainment choices. Thus children's impact on household spending adds up to billions of dollars every year.

Today's kids have more autonomy and decision making power which is an indication that if adults are living in a consumerist society, the juniors are not far behind from pester power to direct consumption. "Pester Power" refers to children's ability to nag their parents into purchasing an item they may not otherwise buy. The teens and pre-teens segment is driving consumption and forcing product lines and service offerings. Marketers are targeting the consumers by using children not only in case of a product meant for them but also for the product used or purchased in the household sector. The amount of influence exerted by children differs in product category and stage of decision making process. For some products they are active initiators, information seekers and buyers, but for other products they influence purchases made by their parents. Parents find themselves under pressure from "Pester Power" as they face growing demand from their children.

Children have acquired dominating influence in purchase decision making. They have become powerful influencers as customers on various product categories even on such products, which they don't use directly. Though the degree of influence varies from product to product, but certainly their influence is seen on household buying decisions. This shift in influence has

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occurred as a result of changes in a family's structure and environment in which children are brought up these days. The major changes in a family's structure are:

1. More women working.
2. More dual income households.
3. More divorces and remarriages.
4. More single parent households.
5. Grandparents raising children.
6. Postponing children until later in life.
7. Kids more exposed to information through technology and mass media. Therefore, parent today are willing to buy more for their kids because they have More disposable income.
8. Lesser time with family.
9. More stress in life.
10. Guilt for not spending enough time with their children.

So parents today substitute material goods for the time spent with their children. Hence, children have a higher say in household buying decisions.

## REVIEW OF LITERATURE

Out of all the factors that influence customers decision making behavior, one of the major factor is the gender. It refers to the social relationship/ roles and responsibilities of men and women, the expectations held about the characteristics, aptitudes and likely behaviors of both women and men (femininity and masculinity) that are learned change over time and vary within and between cultures.

According to **Mitchell and Walsh (2004)**, males and females want different products and they are likely to have different ways of liking and obtaining these. Gender has an important role in

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consumer behaviors. Because, the differences between men and women about expectation, want, need, life-style etc. reflect to their consumption behavior.

**Solomon *et al* (2010)** suggests that, products are sex-typed or androgynous. Sex-typed defines a product that takes on masculine or feminine characteristics. Put simply, Barbie for girls and Hotwheels for boys.

As per the socialization of men and women, women are perceived to be internally focused and often talk as a way to connect and relate to others, whereas men are perceived to be externally focused and often view situations as issues to be resolved. They talk to inform others.

This perception though is generalized and may have lot of exceptions but exceptions do not invalidate generalizations. For example, there are many women who are taller than the average man, and there are many men who are shorter than the average woman. But the generalization "Men are on average taller than women" is still valid. Similarly, not all men have a strong male brain, and not all women have a strong female brain, but there are average differences between men and women, and men are far more likely to have the male brain and women are far more likely to have the female brain.

Women are considered as being warm, expressive, compassionate, and understanding People feel this fashionable paradigm of the differences between men and women are passively accepted by marketing practitioners around the world. Obvious sex



differences exist not just because of genetic reasons, but are quite often due to cultural variations.

Every marketer today has realized this fact and hence gender has become one of the major factors and basis of segmenting a market and targeting the customers.

Men and women approach problems with similar goals but with different considerations. While men and women can solve problems equally well, their approach and their process are often quite different. For most women, sharing and discussing a problem presents an opportunity to explore, deepen or strengthen the relationship with the person they are talking with. Women are usually more concerned about how problems are solved than merely solving the problem itself. Most men on the other hand are less concerned and do not feel the same as women when solving a problem. Men approach problems in a very different manner than women. For most men, solving a problem presents an opportunity to demonstrate their competence, their strength of resolve, and their commitment to a relationship. How the problem is solved is not nearly as important as solving it effectively and in the best possible manner. Men have a tendency to dominate and to assume authority in a problem solving process.

One specific aspect of gender difference in purchase decision is the factor of time. Men tend to make their purchasing decisions based on immediate needs and how well the product or service will satisfy needs now and into the immediate future. Long-term considerations seem to play little part for men. For women, however, this trend is almost reversed. Frequently the long-term

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considerations, and whether the purchase can be used again and again over time, may even be a stronger factor in the woman's purchasing decision than instant satisfaction.

When it comes to actually making the decision, women generally make purchase decisions on a more emotive level, whereas men go more with the facts and data. In a study titled,

"Men Buy, Women Shop," researchers at **Wharton's Jay H. Baker** Retail Initiative and the Verde Group, found that women react more strongly than men to personal interaction with sales associates. Men are more likely to respond to more utilitarian aspects of the experience such as the availability of parking, whether the item they came for is in stock, and the length of the checkout line.

Additionally, previous researches have shown that though gender plays a vital role there is differential gender roles across products. **Davis and Rigaux (1997)** did research on the study of family decision-making roles. They identified that there are three phases of decision making viz problem recognition; search for information; and final decision. They found that the roles and relative influence of husbands and wives differed based on decision-making stage and product type

Further, **Belch and Willis (2002)** found that purchasing decisions related to household items such as automobiles, televisions, and financial planning are moving from being primarily male dominated to joint decisions. This may be due to the rising education level and increasing in the number of working women. Studies show that household decision-making



areas that were once dominated by one gender were also becoming more influenced by the opposite gender like, a research found that of 80 percent of men purchased 25 percent of household groceries, while women were taking a larger part in the purchase of insurance, automobiles, and financial services.

## **FAMILY DECISION MAKING**

As we could see its role is changing though still family is the primary decision making unit in the society. Several authors deal with the dynamics of family decisions (Aribarg 2002, Arora és Allenby 1999, Seetharaman 1999, Su 2003, Ward 2006), but as to the decision making it is examined from several point of views: economical (Becker 1974) and social conflict views (Sprey, 1979) and by gender roles (Pollay 1968, Scanzoni, 1977, Qualls 1988). Most of the authors (Davis, 1970, 1971, 1976; Davis-Rigaux 1974, Filiatrault and Brent 1980, Spiro 1983, Cosenza 1985, Corfman 1991, Ward 2005) tend to examine family decision making from a gender point of view, hence they try to explain the relative influence of family members in the decision making process. Level of influence depend on several factors: how a spouse contribute to the household (Blood and Wolfe, 1960) or what type of culture (traditional/modern) the parties come from (Qualls, 1987). In spite of these Johnson et al. (1994) examine children's influence on decision making, however other authors concentrate exactly on the process (Hoffman 1977, Howard and Sheth 1969, Blackwell et al. 2006, Sheth 1974). Older studies introduced family purchase decision making as a rational decision by all family members it was not taken into consideration how personal emotions influence the different actors. Nevertheless this type of



assumption ignore that people are not totally rational decision makers, but in many cases influenced by their emotions. (Gelles and Straus, 1979) Among family members close emotional bonds emerge over time, that influence the decision making process and its output. Emotions (like love, sympathy, anger, guilt) can connect to different steps of purchase decision making.

## **MODELS EXPLAINING FAMILY PURCHASE DECISION MAKING**

Family as an influencing factor can be found in several consumer or buyer behavior model, but much less of them examine exactly the family and processes undergoing within the family. My aim was to count and introduce those models that partly or wholly explain family purchase decision making processes.

There is something common in all models explaining consumer behavior: they describe only few, basic behavior, need or situation, and at the same time they assume that people behave totally according to these. Nevertheless it is a problem that most of the models pass by any other possible behavior. (Mullen and Johnson, 1990) Some of the authors even question the reason for existence of these models and their real explaining nature (Runyon and Stewart, 1987) and treat them as a tool explaining an ideal state (Erasmus, 2001), as they always take extended purchase decision making as a norm.

Another real problem of models dealing partly or wholly with families that most of the purchase decisions are family decisions but most of the researchers dealing with consumer behavior examine individuals separately. It is seldom expectable that



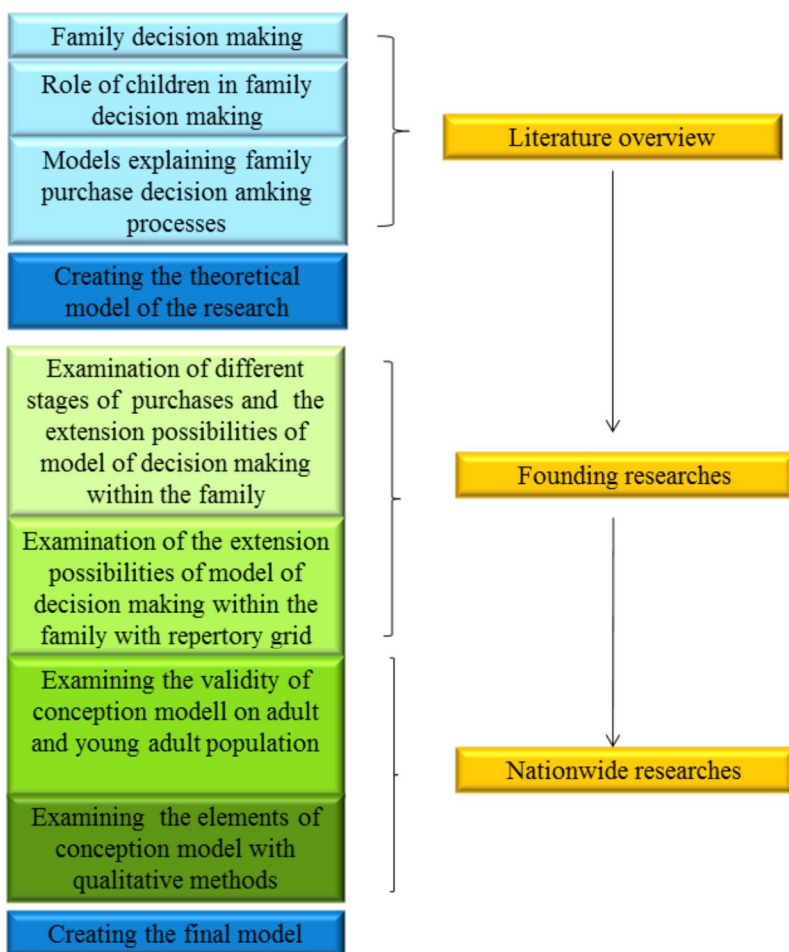


preferences of individuals coincide with the preferences of the family. (Engel and Blackwell, 1982) Furthermore most of consumer behaviors are preliminary decisions (Bozinoff, 1982): it means that most of the consumer behavior models try to explain a preliminary process with a consciously oriented paradigm.

<b>STATIC MODEL</b>			<b>DYNAMIC MODEL</b>
<b>Family partly appear</b>	<b>Family as an influencing factor appears</b>	<b>Family purchase decision making processes appear</b>	<b>Family purchase decision making processes appear</b>
Stepherd (1990)	Blackwell et al. (2006)	Davis and Rigaux (1974)	Pollay (1968)
Kotler and Keller (2006)	Howard and Sheth (1969)	Hoffmann (1977)	Corfman and Lehman (1987)
		Sheth (1974)	Qualls (1988)
		Isler et al. (1987)	Johnson et al. (1994)
			Park et al. (1995)
			Su et al. (2006)

Source:Blackwell 2006, Davis 1974, Lehota 2001, Hoffmann 1977, Kotler and Keller 2006, Shiffmann 1987, Hofmeister 2003, Pollay

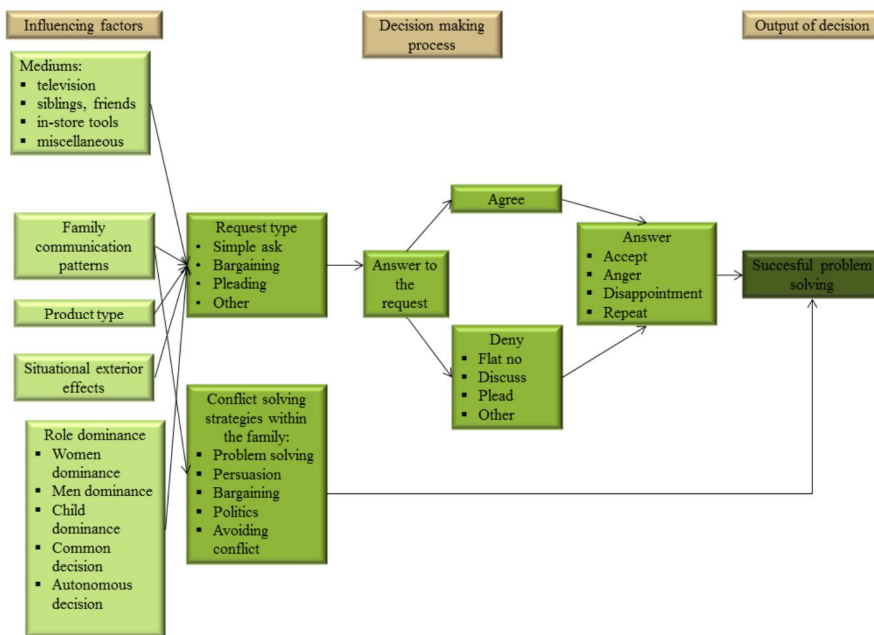
1968, Corfman and Lehman 1987, Qualls and Jaffe 1992, Johnson et al. 1994, Töröcsik 2006, Su et al. 2006



**Figure 1**  
**Logical thread of the research**

Researches -as it can be seen on Figure 1- were made in several steps. Research conditions (Table 2) and applied methods will be introduced thereafter. Presentation of research results will be based on the stages of decision making process known from

Kotler and Keller (2006) model. In the end of the dissertation I will base the theoretical model with my research results.



**Figure 2**  
**The conception model**

Successful problem solving is largely influenced by conflict-solving strategy within the family. Sheth (1974) set apart 4 different conflict-solving strategies: problem solving, persuasion, bargaining and politics. Besides these Johnson et al. (1994) distinguish a fifth conflict-solving strategy: avoiding conflict.

Conception model draws from both static and dynamic models, but the model itself can be treated as a dynamic one as it examines a complex process. Structure and examination aspect of source models are rudimental different, but as to the examination



focus resemblances and connection points can be discovered. All of the source models emphasize communication within the family and the applied communication strategies. Altogether, as it was explained in the theoretical part, overlap among models cannot be discovered too much, similarities can be discovered in the extent of examination focus especially in the case of communication strategies. Accordingly I thought it is reasonable to keep the examination focus and complete it with the influencing factors.

Main strand and starting point of the model was the Children's Purchase Request and Parental Response model (Isler et al. 1987). The model itself is based on the fact that different type of influencing factors, lead to different type of demands. This demand can be a simple ask, but also a bargain or plead. Parents react variously to these demands: if they agree with the purchase they simply say yes, but if they do not agree they can react variously. They say a flat no, they discuss the purchase with children or they simply stall the answer. Children react to parental response variously: they simply accept it, they constantly repeat their question, but also anger and disappointment can occur.

Children's request type can be influenced by several factors. In the model on one hand influencing factors are different mediums and marketing communication tools. (Isler et al., 1987) In the other hand product type and situational exterior effects appear. (Johnson et al., 1994). The model does not disregard the influence of role dominancy, (Davis and Rigaux, 1974) known dominancy types appear in the model. Model of decision making within the

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### Word cloud of associations connected to purchases

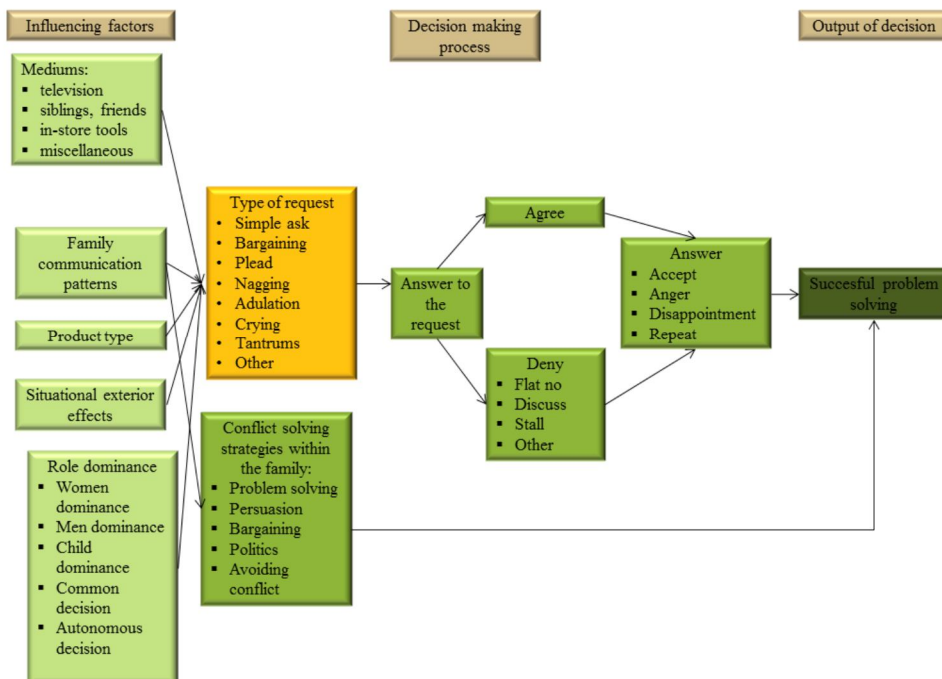
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bow to their parents' decision, sometimes they become angry. By the interviews it can be detected that if children do not simply ask, but use another communication strategy (nagging, bargaining) to achieve their goals, it is bootless for parents to convince them with reasonable arguments, their children generally reacts with an extreme emotional burst to the parents' decision.

Family members can undertake different roles within the purchase decision making process. Usually women appears as initiators, in cases of products that can be connected to household (food products, furniture, household appliances) this can be observed particularly. Man hardly initiate if yes they do it in the case of electronic products, DIY tools, garden products. Usually they are experts also in the case of these products. It is interesting that men are also experts in the case of mechanical products and meats. Women mostly experts in the case of products that can be connected to household, but they are also more familiar with furnishing and clothes. We should not forget about the expert role of children as they concordantly appear as an expert in the family in the case of computer products. Their expertness can be discovered in the case of phones. Children are the ones who definitely are experts in trendy, fashionable things, they know what is fancy as to their own clothing and accessories they are the most informed. It also can be seen that experts usually appear as brand choosers in the purchase decision making process. Attitude of respondents towards purchases are very various. In total three craggy groups can be separated. For the first group shopping always mean a joy, mainly women belong to

this group. For the second group shopping primary mean a joy, but mostly in the case if it has some experience content and because of its family program nature it go beyond task fulfillment. In this group both men and women can be found. For the third group shopping is unambiguously a trammel, mainly women belong to this group.



**Figure 4**  
**The final model**

## CONCLUSION

After the through literature review, it has been noted that gender is not only a biological concept as being a male or female, but beyond. Looking at gender with different dimensions, gender is not only a market segmentation variable, it is a variable that



has a strong impact on the decisions. Marketers need to understand gender based tendencies in order to better satisfy the customers. Huge differences lie in the attitudinal and behavioral aspects of men and women due to psychological and physiological differences. Both male and female consumers depict completely different behaviors as far as purchasing various goods and services are concerned. Where men are more externally focused women tend to be internally focused people who tend to talk in order to connect with others unlike men who talk to others more often than not in order to inform. Men tend to gather information through heuristic men as and gather salient cues in comparison to women who believe in depth information search.

Where women are more subjective and intuitive men tend to be more analytical and logical who make their opinion based on other peoples purchase rather than trying it themselves.

Men tend to value quality and efficiency the most while women value emotional connect and relations. Further, where men tend to make purchases based on the immediate needs women look at purchase as a long term decision.





## **ANALYSIS OF DRINKING WATER OF DIFFERENT PLACES**

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### **1. INTRODUCTION:**

Increase in urbanization, industrialization, agriculture activity and various human activities have increased the pollution of surface water & ground water. As the safe & potable drinking water is needed. Various treatment methods are adopted to raise the quality of drinking water. Water should be free from the various contaminations viz. Organic and Inorganic pollutants, Heavy metals, Pesticides etc. as well as all its parameter like pH, Electrical Conductivity, Calcium, Magnesium, Total Hardness, Carbonate, Bicarbonate, Chloride, Total Dissolved Solid, Alkalinity, Sodium Potassium, Nitrate, should be within a permissible limit .

### **2. METHODOLOGY**

All the analytical assessments were carried following standard methods for examination of groundwater [21]. The geographical parameters (Latitude and Longitude) for the exact location of the sampling station noted at the site were referred with the help of the district topo sheets obtained with a special permission from Deputy Director, Groundwater Board, Visakhapatnam. The term parts per million is a weight-to-weight ratio. Its use was more or less universal and

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unquestioned when analysis was principally concerned with water, because a liter of water weighs approximately 1000gm or 1,000,000mg, and hence 1 mg/L was considered to be equal to 1ppm. Hence in the present study the results have been expressed in parts per million (ppm). These units were prescribed by Indian Standard Institutions (IS 3025/1964) [22], International Standards for Drinking Water, WHO [21]. The statistical summary of the analytical results is summarized in Table 1. Fluoride concentration was determined using 'Omega' fluoride ion selective electrode in combination with a double junction reference electrode (with inner junction made of 4M KCl and outer junction 1M KNO<sub>3</sub>) and Consort P602 ion meter. 25 mL of each sample and standard solution (0.1ppm -10ppm, from NaF) were mixed with equal volumes of TISAB buffer. The instrument was calibrated with standards, after compensation for temperature had been done. The instrument directly records the concentration of fluoride in the water samples.

Table1. Statistical summary of the analytical results

Fig. 1. Map of the study area

Table 1. Statistical summary of the analytical results

Parameter*	Minimum	Maximum	Mean	Standard deviation	Coefficient of variation
pH	7.22	8.35	7.70	0.26	3.40
E.C.	847.00	2446.00	1413.10	413.02	29.22
TDS	524.00	1674.00	942.22	257.58	27.33
Ca <sup>++</sup>	37.00	146.00	63.70	18.91	29.69
Mg <sup>++</sup>	21.00	115.00	52.56	16.52	31.43
Na <sup>+</sup>	85.00	386.00	172.40	59.25	34.36
K <sup>+</sup>	2.00	80.00	8.78	12.40	141.27
CO <sub>3</sub> <sup>-</sup>	0.00	40.00	3.60	9.63	267.73
HCO <sub>3</sub> <sup>-</sup>	220.00	522.00	341.80	69.35	20.28
Cl <sup>-</sup>	134.00	508.00	264.80	91.88	34.69
SO <sub>4</sub> <sup>-2</sup>	19.00	124.00	42.82	21.08	48.81
F <sup>-</sup>	0.10	2.04	0.86	0.41	48.21
NO <sub>3</sub> <sup>-</sup>	2.00	52.00	14.24	11.21	78.78
PO <sub>4</sub> <sup>-2</sup>	0.00	2.55	0.43	0.58	133.92

\*All parameters are expressed in mg/L, except pH and E.C.;  
TDS = Total Dissolved Solids, E.C. = Electrical Conductivity ( $\mu$ Siemens/cm<sup>2</sup>).



## 4. RESULTS AND DISCUSSION

Assessment of the chemical quality of drinking water relies on comparison of the results of the water analysis with guideline values. As the term quality is relative, its standardization is always complicated and debatable. One such standard, always in the limelight is fluoride. Some countries have fixed its minimum value as 1.5ppm, while India along with some others has fixed it as 1ppm. The tropical nature, dietary habits, physiological formation etc, are the reasons for this deviation of fluoride standard from others. Likewise many of the constituents for Indian Standards of potable waters like chloride, nitrate, sulphate etc. differ from those of other countries in the world.

High concentrations of fluoride ( $>1.5\text{ppm}$ ) are observed in stations (16,23, 34, 39 and 7). The samples (5, 10, 13, 17, 20, 27, 30, 36, 37, 40, 41, 43, 45, 48 and 49) show concentrations more than 1ppm. The former set of groundwater samples come under the non-potable type as fluoride concentration crossed the permissible limit of 1.5ppm prescribed for safe drinking by World Health Organization and Indian Standards. In these areas the vulnerability towards dental and skeletal fluorosis will be at its high.

The origin of high fluoride concentrations in these samples is interpreted with the help of WATEQ4F programmer [24]. It correlates an input data of the parameters given to predict the possible mineral source responsible for its existence in that particular area. The concentrations of parameters determined (Physical Characteristics, Cations, Anions, Geophysical etc.) in

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the present study were recorded in the tabular form of the input data file was the first step of the programme. Then, with a specific input file name with simultaneous output file, the programme will be executed.

The WATEQ4F programmer correlates the concentrations of the parameters in their cationic and anionic ratios with that of the existed mineral forms. Here, as all the available mineral species cationic and anionic ratios are pre-recorded, the best possible correlation will be displayed in the form of Saturation Indices (S.I.). These S.I. of the mineral species of an area signify the ease with which the ions are able to leach into the groundwaters. The ionic strength of the elements constituting the mineral determines the ionic exchange on contact with the groundwaters. The difference in these strengths will initiate the process; likewise the resident time is also a key factor in leaching to the mineral species into the groundwaters. Here comes the role of other ions in the vicinity, like Calcium, Phosphate etc. where the role of pH being critical. Positive S.I. values indicate a possible existence of an anion or cation in that form (mineral), whereas the negative values signify an under saturation of the form (mineral) or non-likely existence. These signify the leaching of the ions into the groundwaters of the study area.



Table 2. Saturation index values of fluoride minerals in srikakulam district

Sampling station	Apatite	Fluorapatite	Fluorite
Eppili	12.33	1.03	-2.294
Gara	17.85	4.037	-2.027
Dola	14.543	1.721	-1.344
Koduru	0	0	-1.099
Uddanam	17.15	3.576	-1.203
Pallivuru	16.197	2.956	-1.155
Akkupalli	9.763	-0.704	-2.433
Pidimi	12.278	0.655	-0.806
Ratti	19.891	5.317	-1.521
Uppalam	11.192	-0.058	-1.137
Baruva	12.912	0.962	-1.834
Kaviti	19.18	4.756	-1.07
Varakha	18.188	3.876	-1.177
Korlam	16.535	2.973	-1.408
B. Koduru	9.24	-0.609	-3.264

Geochemical ratios are widely applied to establish the facts about the chemical similarities among the waters, which are used for deciding the origin of the water chemistry. According to Sarin et al, source for the ions in the ground waters can be predicted along with  $\text{Ca}^{2+} + \text{Mg}^{2+} : \text{TC}$  (Total Cations) and  $\text{Na}^+ + \text{K}^+ : \text{TC}$  ratios. They further stated that, the cationic and anionic ratio of sodium and chloride also has to be included with the above in cases where their percentage of contribution in the total numbers is as significant as others.



In general, with the ratios of alkaline earths and alkalies with their total concentrations showing values less than unity, their values should be more than unity in order to support the above prediction. But, the mean of sodium and chloride ratios (0.60, 0.73 and 0.66) are less than unity in the study areas in the area. Even though there are cases which validate the criteria, the overall scenario looks quite opposite, supporting the view that rock weathering is not the only source but also other factors play their part in the genesis of the chemical ions. These include from anthropogenic, seasonal or effects carried from the elevated and the plain.

## 5. CONCLUSIOS

The positive values observed in some stations of the Fluorapatite mineral signify the isomorphous nature of Apatite form of Fluoride in saturation form in the study area. The dominance of Apatite over Fluorapatite (irrespective of its lower standard deviation than Apatite in their plots with fluoride) values conform its presence of the mineral in those areas of high fluoride. By the Base Exchange index it gives the reason would be the highest electronegativity of fluoride than chloride enabling it to quickly leach upon the contact of groundwater with time and space attributes its presence. Added to these are the local geological conditions where there are topographically low lying areas are more vulnerable as groundwater fluctuations might be higher.



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## **EFFECTIVENESS OF RATIONAL EMOTIVE BEHAVIOR THERAPY ON STRESS AND SELF-ESTEEM AMONG LITERATE UNEMPLOYED**

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### **Introduction**

There are millions of well educated youths in India who are unemployed. There has been a gradual increase in the literacy rate in India over the past few decades, leading substantial increase in the unemployment rate. Employment growth in the organized sectors (both public and private), registered a decline by -0.32 percent between 1994-2005. With economic recession, unemployment is increasing substantially.

The share of agriculture in the total employment has come down from 61.67% in 1993-94 to 52% in 2004-05. It is a alarming (serious) decrease considering the fact that agricultural income is a major share of Indian economy. However, trade, hotel, restaurant, transport and communications sector showed visible growth in the employment rate. Employment opportunities in these sectors are highly vulnerable and they tend to give a sense of insecurity feeling among the employees, leading to take up a self employment or business career, facing severe competition from the rising number of multinational companies, supermarkets and malls. Unemployment is a growing social problem worldwide with serious financial consequences for the

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effected individuals. Unemployment or job loss is one of the most stressful life events and can lead to diminished social status, disturbed social role patterns, financial debt, reduced self-esteem and feelings of guilt (Ensminger & Celentano, 1988). A substantial proportion of individuals who become unemployed will experience or develop stress-related disorders or "mental distress" (Ensminger & Celentano, 1988, Lindstrom, 2005, Theodossiou I. 1998).

There is still no complete agreement concerning the definition of unemployment between different countries, and even within a country different institutions sometimes adhere to different definitions of unemployment (Hollenderer, 2002). Unemployment is often described as a "Condition of involuntary idleness"- Das (1968). "It is a condition in which an individual is not in a state of remunerative occupation despite his desire to do so" -D'Mello (1969). "It is a state of working for a man fit and willing to work, i.e, it is a condition of involuntary and not voluntary idleness". Mamoria (2003). It is largely concerned with those men and women who constitute the labor force of a country, who are able-bodied and willing to work, but are not gainfully employed. I LO (1982) defines unemployment as, it occurs when people are without jobs and they have actively looked for work within the past four weeks. Unemployment affects an individual, and it causes personal, family and social disorganization and irreparable economic losses. (Ahuja, 1997).

Number of studies show that unemployment, reduces general health and increases depression (Bolton & Oatley ,2009;



Frost, & Clayson, 2006; Comino, et.al, 2000; Waters, and Moore, 2002; Lars Axelsson & Goran Ejlerstsson, 2002; Fineman, 1987).

The concept of stress was first introduced to social science and medicine by Selye in 1936, and defined stress as any external event or any internal drive which threatens to upset the organism equilibrium and it is the nonspecific response of the body to any demand (Selye 1950). The term stress has been approached as a stimulus or external force acting on the organism; as a response or changes in the physiological functions; as an interaction between an external force and the resistance opposed to it; finally, as a comprehensive phenomenon encompassing all the three. (Mason 1979). According to Lazarus and Folkman, Stress is a general term describing the psychological and physical response to a stimulus that alerts the body's equilibrium. (Lazarus and Folkman, 1984). According to Miller and Smith, 'Stress is a state of tension created when an organism or structure responds to demands and pressures of its internal and or external environments'. Ivancevich and Matteson, (1993) defined stress as "the interaction of the individual with the environment, an adaptive response mediated by the individual differences and/or psychological processes, that is a consequence of any external (environmental) action, situation, or events that places excessive psychological and or physical demand upon a person". stress is at the root of all psychosomatic diseases regardless of the organ system involved. (Pestonjee 1992).

Self-esteem is a term used in psychology to reflect a person's overall evaluation or appraisal of his or her own worth- Wikipedia on Answers.com. In the mid 1960s Rosenberg and social-learning

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theorists defined self-esteem in terms of a stable sense of personal worth or worthiness- Baumeister, Smart, & Boden, (1996). Branden (1969) defined self-esteem as "...the experience of being competent to cope with the basic challenges of life and being worthy of happiness". This two-factor approach, as some have also called it, provides a balanced definition that seems to be capable of dealing with limits of defining self-esteem primarily in terms of competence or worth alone. It can be defined as sense of personal worth and ability that is fundamental to an individual's identity. - Britannica Concise Encyclopedia.

Self-esteem encompasses beliefs (e.g., I am competent) and emotions such as triumph, despair, pride and shame. Self-esteem can apply specifically to a particular dimension or have global extent.

The negative impact of unemployment on psychological health is loss of self-esteem (Waters, 2000; Sheeran & Abraham, 1994; Winefield, Tiggemann, & Winefield, 1992). It is an experience that leads to self-doubt and an internal struggle with confidence Amundson and Borgen (1987) and Amundson (1994). Cross-sectional and longitudinal research using a global measure of self-esteem has repeatedly demonstrated that unemployed people display lower levels of self-esteem than do employed people (Shams & Jackson, 1994; Patton & Noller, 1990; Feather & O'Brien, 1986; Perfetti & Bingham, 1983; Gurney, 1980).

Studies have been conducted in India using unemployed sample (Chakrapani, 1995; Chandrakanth & Svaboda, 1995; Rani, 1993; Singh, 1990, 1992, 1994, 2001; Singh, Kumari & Singh, 1992; Singh, Singh & Rani, 1996a, b; Singh, Singh & Singh, 1995)-



Singh (2006) . These studies reveal that unemployed particularly the literate ones have been affected adversely. Their psychological well-being is at stake. They are confused. At the individual level, unemployment creates psychological dysfunctions like a feeling of loss, anxiety, stress, insecurity, reduced self-esteem, depression, alienation, hopelessness, dysfunctional attitude inability to adjust to the existing life situation etc. People encountering prolonged unemployment tend to lose hope, become resigned, apathetic and adopt a somewhat restricted way of life. In fact unemployment can be as debilitating psychologically as it is financially.

### **Need of the study**

Many studies carried out by Indian researchers reported only presence or absence of maladaptive behavior or psychological problems in unemployed. Further, review of the studies reveals no attempt has been made to address the psychological problems. Hence the present study is an attempt to reduce the level of stress and enhance self-esteem using REBT

### **Aim**

The present study is an attempt to manage stress and self-esteem among literate unemployed males through rational emotive behavioral therapy (REBT).

### **Objectives**

Study had the following objectives

- (1) To assess the level of Stress and Self-esteem among literate unemployed males.



- (2) To study the effect of REBT on the level of Stress and Self-esteem among literate unemployed males.

## **Hypothesis**

REBT is effective in reducing the level of stress and in enhancing self-esteem.

## **Design**

The present study adopts two groups (control and experimental) pre and post assessment design.

## **Sample**

Initially, 435 unemployed literate males who are physically fit to work, searching for job for at least six months and who are in the age group of 20-40 years were screened for the present study. Out of 435, only the subjects who were high on level of stress and low on self-esteem were selected. Using these research criteria 30 subjects were selected randomly. Out of 30 subjects, 15 subjects each were assigned to experimental (N=15) and control group (N=15) respectively. Experimental group was subjected to intervention. Study included only males for the purpose of maintaining homogeneity of the group. Inclusion of unemployed literate women would have compounded the result.

## **Research tools**

Following research tools were used

- (1) Semi Structured Interview was specifically developed to collect demographic and other information
- (2) Stressful Life Events Questionnaire (Latha, 1988) – It consists of 52 items. It assesses stress level into mild (0-17), moderate (18-35) and Severe (36-52). Further it assesses stress based on the amount of change or adjustment One has



to make to life experiences rather than the undesirability of events themselves. The questionnaire has 3 control indexes indicating whether the individual has complete (0-51), partial (18-35) or no control (36-52) over the experienced stressful situations. The author reports reliability value as 0.86 and content validity based on judges rating Was 0.86. in the present study Cut off points used are 30 & above for stress and 51 & above for stress control.

- (3) Self-Esteem Scale (Rosenberg et. al. 1965) – It is a 10-items self-report measure of global self-esteem. It measures overall feelings of self worth or self acceptance. The items are answered on a four-point scale ranging from strongly agrees to strongly disagree. In scoring, it is to sum ratings assigned to all the items after reverse scoring the positively worded items. Scores range from 10 to 40, with higher scores indicating higher self-esteem. In the present study Cut off point used is 14 and below

## **Procedure**

The study carried out in three phases.

### **Phase-1 Pretest – Identifying the sample:**

In the first session unemployed literate males were identified by visiting the houses rural area. After identifying the subjects purpose of the research was explained to them and request was made for their co-operation. In the second session or after establishing rapport necessary demographic details were obtained. In the third session Stressful life events questionnaire and Rosenberg self-esteem scale were administered. In the fourth session subjects who fulfilled the research criteria were contacted again with a request to participate and cooperate in the intervention and consent was obtained from those who agreed for intervention



Stressful life events questionnaire and Rosenberg self-esteem scale were administered to a large number of literate unemployed adults (435). Out of 435 subjects, 41 met cut off score criteria specified for this research i.e.; those with high stress on Stressful life events questionnaire, (30 and above) and low self-esteem on Rosenberg self-esteem scale (14 and below). Out of 41 subjects 15 subjects each were randomly allotted to experimental (N=15) and control (N=15) group respectively. Experimental group subjects received intervention for 24 sessions, whereas control group subjects were not subjected to any intervention.

## **Phase-2 Intervention**

Subjects in the experimental group received following intervention.

- (1) Cognitive restructuring- This is selected to make subjects to identify and handle cognitive errors, which would mediate the reappraisal of stressful situations. Subjects were taught ways of approaching stressful situations. This module was given twice to experimental group.
- (2) Assertive training- Research shows that good communication leads to support from others and create harmonious environment. Poor interpersonal relationships are the most important source of negative psychological aspects. Assertive training is selected to improve communication skills and interpersonal relationship. Two sessions were given to experimental group.
- (3) Anger management- Negative emotional state like Anger is a common consequence and cause of negative emotional affective state. Studies suggest that anger results in mishandling an otherwise simple conflict and further leads to disturbed interpersonal relations both at home and in society.





Two sessions were given to experimental group to teach anger management skills. Along with these Identifying the current problems, Goal setting, Slow-breathing technique, Self-observation, Relaxation etc were used in intervention. Totally 24 sessions were given.

### **Phase-3 Post test**

It consists of post assessment. Data were obtained from the subjects using Stressful life events Questionnaire and Rosenberg's self-esteem scale from both control and experimental groups.



## Results

Table 1 Showing distribution of sample on demographic variables

Variables		Group			Contingency Coefficient	Significance
		Experimental	Control	Total		
Age	<24	4(26.7%)	4(26.7%)	8(26.7%)	0.231	0.429
	25-27	3(20%)	6(40%)	9(30%)		
	28+	8(53.3%)	5(33.3%)	13(43.3%)		
Qualification	SSLC	6(40%)	9(60%)	15(50%)	0.206	0.721
	PUC	6(40%)	4(26.7%)	10(33.3%)		
	ITI	2(13.3%)	1(6.7%)	3(10%)		
	UG	1(6.7%)	1(6.7%)	2(6.7%)		
Family type	Nuclear	12(80%)	14(93.3%)	26(86.7%)	0.192	0.283
	Joint	3(20%)	1(6.7%)	4(13.3%)		
Marital status	Married	10(66.7%)	9(60%)	19(63.3%)	0.069	0.705
	Unmarried	5(33.3%)	6(40%)	11(36.7%)		

(\*Values shown in the bracket are percentage).



Table 1 shows a non significant association ( $CC=0.23$ ;  $P < 0.43$ ) between test groups and age; between test groups and educational level ( $CC=0.21$ ;  $P < 0.72$ ); between family type and test groups ( $CC=0.19$ ;  $P < 0.28$ ) and between test group and marital status ( $CC=0.07$ ;  $P < 0.70$ ).

Table 2 showing pre-posttest mean and SD scores on Stress, Stress control and Self-esteem between two groups and results of ANOVA

Variables	Experimental group					Control group				
	Pre test		Post test			Pre test		Post test		
	Mean	SD	Mean	SD	Change	Mean	SD	Mean	SD	Change
Stress	31.87	2.17	20.33	2.43	11.53	31.67	1.54	31.47	1.45	.02
F = Time F (1, 28) =2045.58, p<0.001. F = Time* group F (1, 28) =1908.49, P<0.001).										

Stress Control	70.20	10.06	41.80	6.43	28.4	71.33	8.16	71.07	8.14	0.26
F = Time F (1, 28) = 400.84, $p < 0.001$ . F = Time* group F (1, 28) = 386.06, $P < 0.001$ .										

Self-esteem	12.47	1.30	18.00	1.13	5.53	12.60	1.45	12.87	1.64	0.27
F = Time F (1, 28) = 203.78, $p < 0.001$ . F = Time *group F (1, 28) = 168.03, $P < 0.001$ .										



According to table 2- the pre mean was 31.87 (SD=2.17), which was reduced to 20.33 (SD=2.43) in the post assessment. Change in the mean score 11.53 indicates substantial reduction in the level of stress which was significant  $F(1, 28) = 2045.58$ ,  $p < 0.001$ . Whereas no change in the mean scores of control group was observed.

Pre mean score on stress control was 70.20 (SD= 10.06), which was reduced to 41.80 (SD= 6.43) indicating enhancement of stress control in the experimental group which was significant  $F(1, 28) = 400.84$ ,  $p < 0.001$ .

The pre mean was 12.47 (SD=1.30), which was increased to 18.00 (SD=1.13) in the post assessment. Change in the mean score 5.53 indicates substantial enhancement in the level of self-esteem which was significant  $F(1, 28) = 203.78$ ,  $p < 0.001$ . Whereas no change in the mean scores of control group was observed.

## Discussion

The main goal of the present study was to assess the efficacy of REBT on stress and self-esteem of literate unemployed males. Review of research studies have shown that REBT was effective in decreasing levels of stress and enhancing self-esteem. REBT and its utility have regularly been examined in terms of its ability to lead to cognitive, emotional, and behavioral changes across a number of clinical populations and across various diagnoses. REBT is an effective intervention for adults (Silverman, McCarthy & McGovern, 1992; Lyons & Woods, 1991; Mersch, Emmelkamp and Lips, 1991; Mersch, Emmelkamp, Bogels & Van der Sleen, 1989;); children, (Gonzalez, Nelson,, Gutkin, Saunders,



Galloway, & Shwery 2004.) parents, (Maughan, Christiansen, Jenson, Olympia & Clark, 2005; Bernard, 2003) and teachers (Martens, Kelly & Diskin, 1996; Knoff, Sullivan & Liu, 1995; DeForest & Hughes, 1992). As an extension to the above mentioned studies, the present study is an attempt to verify the efficacy of REBT on the literate unemployed male population.

Prior to the intervention, the subjects of the experimental and control groups showed almost same level of stress and self-esteem. The post REBT assessment revealed reduced stress of literate unemployed males. Results showed that the REBT was very effective in decreasing stress of literate unemployed males. After the client was taught to handle their thinking and mindset, they would start searching for other ways of constructive ways of living rather than living an idle life. In a qualitative analysis of the pre and post information collected it is evident that the relaxation, cognitive restructuring & assertiveness training etc had brought about a positive change in their beliefs and thought processes and brought significant stress control and decreased stress symptoms and the result showed that the effect of intervention on stress ( $F(1, 28) = 2045.58, p < 0.001$  &  $F(1, 28) = 400.84, p < 0.001$  (stress control)) was statistically significant. Intervention made them emotionally balanced. Most research shows that relaxation techniques are helpful in the management of stress related headache, (Wisiewski et al., 1998) aggressive behavior, (Gains & Barry, 2008; Mangolin et al., 2002) and anxiety (Rashid & Parish, 1998) and the stress inoculation approach is effective to increase anger control and reduce inappropriate expressions of anger (Nugent et al., 1997;



Hains,1992; Hains & Szyjakowski,1990). Assertive training was found to be effective in improving the social coping skills of general populations of adolescents and in enhancing personal relationships and interactions between people (Cecen-Eroguel & Zengal, 2009; Howing et al., 1990; Rotheram & Armstrong, 1980). It can improve individuals social skills and emotional health and promotes personal well-being (Eskin, 2003).

In our effort to enhance the self-esteem, the experimental group improved significantly in their overall self-esteem and also in various aspects. According to the results we found that the effect of intervention on self-esteem was statistically significant ( $F(1, 28) = 203.78, p < 0.001$ ). Most research shows that the stress inoculation approach showed significant improvements in self-esteem in youths who received it in comparison with the wait list control (Hains & Szyjakowski,1990). Relaxation responses curriculum increases high school students' self-esteem (Benson et al., 1994).

Recent studies show that REBT is very effective therapy to manage stress and self-esteem of people including literate unemployed compared to other therapies. Although problems like stress, low self-esteem are quite common in the modern world, common man can enhance his self-esteem and get rid of stress through this psychological therapy. Present study is a good example for the fact that REBT can improve self-esteem and make people gets free from stress.

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## **PURCHASING POWER PARITY: A BEGINNER'S GUIDE**

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### **INTRODUCTION**

In economics, purchasing power parity (PPP) is a condition between countries where an amount of money has the same purchasing power in different countries.

Purchasing-power parity theory is a theory which states that the exchange rate between one currency and another is in equilibrium when their domestic purchasing powers at that rate of exchange are equivalent.

In short, what this means is that a bundle of goods should cost the same in India and the United States once you take the exchange rate into account.

### **LAW OF ONE PRICE**

The law of one price (LOP) is an economic concept which posits that "a good must sell for the same price in all locations". The law of one price constitutes the basis of the theory of purchasing power parity . (1)

Law of one price is same as the Purchasing Power Parity Theory except that the former deals with one particular product while PPP deals with a generalized view of all commodities.



## **PURCHASING POWER: BASIC EXPLANATION (2)**

Let us suppose that one U.S. Dollar (USD) is currently selling for ten Mexican Pesos (MXN) on the currency exchange-rate market. In the United States wooden baseball bats sell for \$40 each while in Mexico they sell for 150 pesos. Since  $1 \text{ USD} = 10 \text{ MXN}$ , then the bat costs \$40 USD if we buy it in the U.S. but only 15 USD if we buy it in Mexico. Clearly there's an advantage to buying the bat in Mexico, so consumers are much better off going to Mexico to buy their bats. If consumers decide to do this, we should expect to see three things happen:

1. American consumers desire Mexico Pesos in order to buy baseball bats in Mexico. So they go to an exchange rate office and sell their American Dollars and buy Mexican Pesos. This will cause the Mexican Peso to become more valuable relative to the U.S. Dollar.
2. The demand for baseball bats sold in the United States decreases, so the price American retailers charge goes down.
3. The demand for baseball bats sold in Mexico increases, so the price Mexican retailers charge goes up.

The purchase of one bat may seem unrealistic, but from the point of view of a company like Walmart, this would be economical provided other factors like travel cost, import tariffs prove economically conducive.

## **PURCHASING POWER VARIATION: SERVICES**

An average treatment for braces in India costs Rs. 30,000. The same in US costs \$3200, i.e., Rs. 179,200 (Taking \$ 1=Rs. 56). However taking  $1 \text{ USD} = \text{Rs. } 9.37$ ,  $\$3200 = \text{Rs. } 20,000$ . Hence at PPP rates  $1 \text{ USD} = \text{Rs. } 8.88$ . It must be noted that PPP is a



generalized concept applied to all commodities in general unlike considering a very particular case as this one.

## **OUTSOURCING AND EMERGING ECONOMIES**

Outsourcing is the process of contracting a business function to someone else.

Bharti Airtel, for example proves to be a quintessence of outsourcing. It is the first mobile telephony company to outsource everything except marketing, sales and finance. Airtel outsourced their IT processes to IBM, entire network operations to Ericsson and Siemens along with Alcatel Lucent recently and the transmission towers to another company. (3)

Undervalued currency renders services very cheap in India and other emerging economies for foreign companies especially. As has been estimated, outsourcing business in India will be worth \$50 billion by 2012. (4)

## **CURRENCY DEVALUATION: CHINESE YUAN**

The value of the Yuan Renminbi (RMB) has been consistently pegged against the US Dollar at a much lower price. Owing to the fact that China is USA's biggest trading partner the devaluation renders the Chinese exports as cheap while the imports from US become expensive, hence a surge in demand occurs for the former and a fall in the case of latter. This gives an undue advantage to China as most US companies use Chinese manufactured products and moreover many tend to carry on their manufacturing in China. (5)



One must take into consideration the fact that in China the exchange rates are heavily controlled by the government and not by market forces solely as the case is shown to be. If the exchange rates are left solely on the market forces Yuan will appreciate.

## **GEARY-KHAMIS DOLLAR**

The Geary-Khamis dollar or the International dollar is a fictional currency that has the same purchasing power that the U.S. dollar has in the United States corresponding to a given time. The basis of this concept is to judge as to how much the national currency carries within its borders. (6)

For example, if Rupee depreciates against the dollar then only the exchange rate is affected i.e., the value of Rupee in Foreign exchange market and International market falls, however purchasing power of one Rupee remains the same in domestic market provided the nation is not heavily dependent on imports for basic needs which is not the case with India as of now.

The International (Geary-Khamis) Dollar is used to make comparisons both between countries and over time.

Comparison of GDPs along this concept rather than the nominal concept tends to be a more reliable judgment of their standards of living. The concept was devised by Roy C. Geary in 1958 and developed by Salem Hanna Khamis in 1970 to 1972. (7)

For example, per capita of India in nominal terms (2013 estimate) is about \$ 1499 (nominal terms) (8) while the same in international dollars is \$ 3800 (PPP terms) approximately. (9)

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Figures expressed in international dollars cannot be converted to another country's currency using current market exchange rates; instead they must be converted using the country's PPP exchange rate used in the study.

## BIG MAC INDEX

The Big Mac Index popularized by 'The Economist', looks at the prices of a Big Mac Burger in McDonald's restaurants in different countries and hence gives a measure of varying purchasing power in different countries.

A recent article by "The Economist" states, "THE Big Mac index was invented by *The Economist* in 1986 as a lighthearted guide to whether currencies are at their "correct" level. It is based on the theory of purchasing-power parity (PPP), the notion that in the long run exchange rates should move towards the rate that would equalise the prices of an identical basket of goods and services (in this case, a burger) in any two countries. For example, the average price of a Big Mac in America in January 2014 was \$4.62; in China it was only \$2.74 at market exchange rates. So the "raw" Big Mac index says that the yuan was undervalued by 41% at that time. " (10)

However, owing to the different scenario of different nations the index gives a qualitative and not a very mathematically accurate picture of currency devaluation or overvaluation. Furthermore, Big Mac in countries like India, China and many African states is a luxury meal not a regular meal as is the case with West.



The Index is an informal approach but nevertheless has proved very efficient notwithstanding its "light-hearted" approach.

## **GDP IN TERMS OF PURCHASING POWER PARITY**

If the value of the Indian Rupee falls by half compared to the U.S. dollar, the Indian Gross Domestic Product measured in USD will also halve. This does not necessarily mean that the Indians are poorer by a half; if incomes and prices measured in Rupees stay the same, Indians will be no worse off (assuming that imported goods are not essential to the quality of life of individuals; in that case currency conversion is to be considered). Measuring income in different countries using PPP exchange rates helps to avoid this problem.

PPP exchange rates are especially useful when official exchange rates are artificially manipulated by governments as in China or when a currency stands undervalued owing to the dynamics of International trade (INR, for example). Countries with strong government control of the economy sometimes enforce official exchange rates that make their own currency artificially strong or weak.

## **PPP AND GLOBAL POVERTY LINE**

The global poverty line is a worldwide count of people who live below an international poverty line, referred to as the dollar-a-day line. This line represents an average of the national poverty lines of the world's poorest countries, expressed in international dollars. These national poverty lines are converted to





international currency (Geary-Khamis dollar) and the global line is converted back to local currency using the PPP exchange rates.

On same basis, Indian poverty line is fixed at approximately 0.4 \$ a day. However inflation in agricultural sector has rendered this poverty line absurd.

## **CONCLUSION: SIGNIFICANCE FOR ENTREPRENEURS**

PPP and currency exchange are very essential for businesses spanning internationally. With innovations like outsourcing and putting into perspective the export and import and the pertaining trends the currency value pertaining to the PPP value (Geary-Khamis dollar) must be studied. Hence International trade is hugely dependent on the study of PPP, which holds a sacrosanct position in this regard.

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## **E-LEARNING AND M-LEARNING: A COMPARATIVE STUDY IN EDUCATION**

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### **INTRODUCTION**

E-learning plays an important role in the educational growth of any nation. It also offers opportunities for developing nations to enhance their educational development. It can also play a critical role in preparing a new generation of teachers, as well as upgrading the skills of the existing teaching force to use 21st century tools and pedagogies for learning. So it is the changing trend in education. The modern technologies particularly the internet made education no longer limited to the four walls of the class room. E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked or not serve as specific media to implement the learning process. The term will still most likely be utilized to reference out-of classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum.

Mobile learning combines E-learning and mobile computing. Mobile learning is sometimes considered merely an extension of E-learning, but quality M-learning can only be delivered with an awareness of the special limitations and



benefits of mobile devices. Mobile learning has the benefits of mobility and its supporting platform. M-learning is a means to enhance the broader learning experience. M-learning is a powerful method for engaging learners on their own terms.

## **SIGNIFICANCE OF THE STUDY**

In this new millennium modern technology plays inevitable role in our lives. The technological revolution poses tremendous challenges to the educators to rethink their basic tenets, to apply technology in creative way to redesign education. In this context, E-learning and M-learning play an important role. These are the new innovations which help greater learning opportunities for the students. The study will cover a wide range of topics relating the context of E-learning, M-learning, their characteristics, advantages and disadvantages. The present study also judges the similarities and differences between E-learning and M-learning. The study reveals with supporting education through modern technology, solving educational problems, promoting educational outcomes linking it with real life situations.

## **OBJECTIVES OF THE STUDY**

The following were the specific objectives of this study:

- To shed light on the concept of E-learning and Mobile learning.
- To focus on the characteristics of E-learning and Mobile learning.



- To compare the advantages of E-learning and Mobile learning.
- To compare the disadvantages of E-learning and M-learning.
- To judge the similarities and differences between E-learning and Mobile learning.

## **DESIGN OF THE STUDY**

The researcher was adopted the analytical descriptive approach in collecting data, information, facts, concepts and opinion related with various phases of this study. The researcher was also reviewed previous literature of the concept, characteristics, advantages and disadvantages of E-learning and Mobile learning.

## **THE CONCEPT OF E-LEARNING AND M-LEARNING**

E-learning is the acquisition and use of knowledge distributed and facilitated primarily by electronic means. It may include the use of web-based teaching materials and hypermedia in general, multimedia CD-ROMs, websites, discussion boards, collaborative software, e-mail, blogs, test chat, computer aided assessment, educational animation, simulations, games, learning management software, electronic voting systems and more, with possibly a combination of different methods being used. E-learning is an approach to facilitate and enhance learning through and based on both computer and communication Technology. It is used to support distance learning through the use of WANS (Wide Area Net Workers), and may also be considered to be a form of flexible learning where learning is



possible in no time. E-learning is also called 'online learning'. Its developed to apply information technology skills to education getting connected to the internet or any network is essential for E-learning. E-learning or Electronic learning is a general term used to refer to computer-enhanced or technology enhanced learning. E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face to face teaching, in which case the term blended learning is commonly used. E-learning is a means of education that incorporates self-motivation, communication, efficiency, and technology. It is a flexible term used to describing a means of teaching through technology. E-learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance. In general, E-learning is the expression broadly used to describe *"instructional content or learning experience delivered or enabled by electronic technologies"*. Broadly, we can define it as *"the use of the Internet, intranets /extranets, audio and videotape, satellite broadcast, interactive TV, and CD-ROM, not only for content delivery, but also for interaction among participants"*. Elliott Masie defines *"E-learning as the experience dimension of E-learning, which includes such factors as engagement, curiosity, simulation and practice"*. E-learning can be defined as *the use of any of the new technologies or applications in the service of learning or learning support*. E-learning means sharing knowledge using technology, computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer based learning, virtual classroom and digital collaboration. Content is delivered via Internet,

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intranet/extranet, wireless telephonic, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio. It is the use of the Internet and related technologies for the development, distribution and enhancement of learning resources. This form of learning currently depends on networks and computers, but will likely evolve into systems consisting of a variety of channels (e.g., wireless, satellite), and technologies (e.g., cellular phones, personal digital assistants) as they are developed and adopted. E-learning can take the form of courses as well as modules and smaller learning objects. E-learning may incorporate synchronous or asynchronous access and may be distributed geographically with varied limits of time.

## **DEFINITIONS OF E-LEARNING**

- E-learning is instruction that is delivered electronically, in part or wholly – via a Web browser, through the Internet or an intranet, or through multimedia platforms such as CD-ROM or DVD (Hall, 1997).
- E-learning is a structured, purposeful use of electronic system or computer in support of the learning process (Allen, 2003).
- E-learning covers a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes delivering content via the Internet, intranet/extranet



(LAN/WAN), audio and videotape, satellite broadcast, interactive TV, and CD-ROM(ASTD, 2001).

- E-learning is training delivered on a computer (including CD-ROM, Internet, or intranet) that is designed to support individual learning or organizational performance goals.

Mobile learning, sometimes called M-learning, is learning accomplished with the use of small, portable computing devices. These computing devices may include: smart phones, personal digital assistants (PDAs) and similar handheld devices. There is some debate on the inclusion of tablet and laptop computers. Often, wireless two-way internet connection is assumed as an integral component. Mobile learning refers to the use of mobile or wireless devices for the purpose of learning while on the move. Typical examples of the devices used for mobile learning include cell phones, smartphones, palmtops, and handheld computers; tablet PCs, laptops, and personal media players can also fall within this scope. M-learning is the idea that a student can learn from any place at any time using portable learning devices. M-learning or 'mobile learning' is any sort of learning that takes advantages of learning opportunities offered by mobile technologies.

- M- learning means *"acquisition of any knowledge and skill through using mobile technology anytime, anywhere that result in alteration of behaviour"*.
- M- learning also brings strong portability by replacing books and notes with small RAM's filled with tailored learning contents.





- M-learning implies different things to different people.

## DEFINITIONS OF M-LEARNING

- According to Quinn (2000) *"Mobile learning is learning through mobile computational devices"*.
- Shepherd (2001) Says: M- learning is not just electronic, it's mobile.
- Colazzo, Ronchetti, Trifonova, and Molinari (2003) state that, *"A mobile learning educational process can be considered as any learning and teaching activity that is possible through mobile tools or in settings where mobile equipment is available."*
- Polsani (2003) defines *"mobile learning as a form of education whose site of production, circulation and consumption is the network"*.
- Pea and Maldonado (2006) stated that mobile learning incorporates *"transformative innovations for learning futures"*.
- Parsons & Ryu (2006) M-learning is broadly defined as the delivery of learning content to learners utilizing mobile computing devices.
- Peters (2007) also stated that it was a subset of E-learning, a step toward making the educational process *"just in time, just enough and just for me"* (Peters, 2007, p. 15).
- Ally (2009) The process of using a mobile device to access and study learning materials and to communicate with fellow students, instructors or institution.



M-learning provides the potential to provide the right information to right people at the any time and any place using portable learning devices. Thus the M-learning can be summarized in a single statement – ***“deliverance of education or any learning via any portable devices”***.

## **THE CHARACTERISTICS OF E-LEARNING AND MOBILE LEARNING**

### **Characteristics of E-learning :**

- **Empowered by digital technology:** E-learning is pedagogy empowered by digital technology.
- **Computer enhanced learning:** E-learning is a term which is used to refer computer enhanced learning.
- **Technology enhanced learning:** E-learning includes all types of technology enhanced learning (TEL), where technology is used to support the learning process.
- **Online learning:** Use of E-learning is generally confined to “on-line learning” carried out through the Internet or Web-based technology, with no face-to-face interaction.
- **More than CBL and CAI:** E-learning conveys broader meaning than the terms CBL (Computer based learning) and CAI (Computer assisted instruction).
- **More than on-line learning:** E-learning is broader in its meaning that they conveyed through the simple terms like “on-line learning” or “on-line education”.
- **Not synonymous to audio-visual and multimedia learning:** E-learning should not be considered as



synonymous to audio- visual learning, multi-media learning, distance education or distance learning. Although the audio-visual and multimedia technology and distance education programmes are based on the Internet and Web services provided through the computers, yet these are not identical but complementary.

- **Confined to Web-based and Internet-based learning:**  
The use of the term E-learning should be confined to the type of learning carried out, supported or facilitated through Web enhanced instruction and the Internet based communications like e-mail, audio and video conferencing, mail list, live chats and telephony.
- **Exclusion of non-Internet and non-Web technology:**  
All types of non-Internet and non-Web technology are not included in E-learning.

### **Characteristics of M-learning :**

- **Accessibility** - The information is always available whenever the learners need to use it.
- **Immediacy** - The information can be retrieved immediately by the learners.
- **Interactivity** - The learners can interact with peers, teachers and experts efficiently and effectively through different media.
- **Context-awareness** - The environment can adopt to the learners real situation to provide adequate information for the learners.



- **Permanency** - The information remains unless the learners purposely remove it.
- Flexible Learning, Large mass covered, reduces students' indiscipline and unrest problem.
- Most of mobile devices have lower prices than desktop PCs.
- Similar size and light weight than desktop PCs.
- Ensure bigger students engage as M-learning is based on modern technologies, which students use in everyday life

## COMPARISON BETWEEN THE ADVANTAGES OF E-LEARNING AND M-LEARNING

### Advantages of E-learning:

- ✓ **Individualized instructions:** E-learning provides individualized instructions suiting to the need, abilities, learning styles and interests of the learners. E-learning has much potential to make the education, instruction and learning opportunities provided to the learners adaptable to the need, local need and resources at their hands. Thus, it is learner centered.
- ✓ **Easy access:** The learner gets access to learning by breaking all barriers of time, place and distance. The learners can access information and educational contents anytime and at anyplace. E-learning is available even in areas where there is no school or college. It can reach any remote or far off areas of the country or world.
- ✓ **Disadvantageous children:** it is available for those with poor health or disadvantageous conditions that can inhibit



them from undergoing any institutionalized education. E-learning enables even handicapped like deaf and dumb to learn.

- ✓ **Qualitative:** E-learning has a unique feature of arranging an access to unlimited number of students the same quality of the content that a fulltime student has.
- ✓ **Effective media:** E-learning can prove an effective media and tool for facing the problem so lack of trained teachers, shortage of schools and needed facilities for providing quality education to the number of students residing in far and wide corners of the country.
- ✓ **Different learning styles:** Unlike traditional classroom education, E-learning can cater to different learning styles and promote collaboration among students from different localities, cultures, regions, states and countries.
- ✓ **Flexibility:** The flexibility of E-learning in terms of delivery media (like CD, DVD, Laptops and Mobile Phones), type of courses and access may prove very beneficial for the learners.
- ✓ **Play-way spirit and learning by doing:** Learning experiences via simulated and gaming techniques may also provide the advantages of getting richer experiences on the useful pedagogical footings of play-way spirit and learning by doing or leaving.
- ✓ **Interesting and motivating:** E-learning may make the students more interested and motivated towards learning



as they may get a wide variety of learning experiences by having an access to multimedia.

- ✓ **On-line, Off-line and live interaction:** The opportunities of having an on-line, off-line and live interaction between the students and teachers and among the students themselves may make the task of E-learning a joy and best alternative to the lively face-to-face interaction and real time sharing of the experiences in a traditional classroom settings.
- ✓ **Self-learning and self-improvement:** E-learning leads to self-learning. It can be utilized for improving technical and vocational skills.
- ✓ **Evaluation and feedback:** E-learning can also provide opportunities for testing and evaluating the learning outcomes of the learners through teachers, peers and auto-instructional devices and software available with there a ding material online, or through the internet and mobile phone facilities.

### **Advantages of M-Learning:**

- ✓ **Increased mobility:** Learning is not restricted to fixed locations any more. Mobile devices allow learners to access learning content and learning interactions anywhere, such as factories, museums, hospitals, shopping malls, cafes and outdoor areas.
- ✓ **Time-saving:** People can now study when they are commuting and traveling.



- ✓ **Environmental-friendly:** It is amazing to find out how much information a mobile device can carry despite its light weight. Less printing is required.
- ✓ **Interactive:** Mobile technology enables students to closely link with their peers, teachers, distant partners, and even interest groups worldwide.
- ✓ Use of relatively inexpensive everyday technologies.
- ✓ Better opportunities to acquire skills at one's own pace, with a degree of privacy that may be missing when using shared computer facilities or relying on equipment belonging to somebody else.
- ✓ Good support for preferred modes of interaction, e.g. accessing audio content or participating in social networks on the move.
- ✓ Catering for interests beyond what is provided in class, through access to additional content such as podcasts or free learning materials (e.g. Open Learn).
- ✓ Handheld devices are often an everyday part of business, so learning can contribute directly to enhancing employability, life skills and work practices.
- ✓ Opportunities for learners to give immediate feedback on their learning experience.
- ✓ Better assessment and diagnosis of learning problems as they occur.



- ✓ Psychological support for those at risk of dropping out, through social networks or personal guidance from a mentor.
- ✓ Learning materials can become accessible to a larger audience, through podcasts, mobile applications, blogs and e-books, which are seen by potential students.
- ✓ Catering for disadvantaged social groups for whom mobile learning presents an opportunity to improve their life chances.
- ✓ Revitalizing the curriculum, rethinking teaching methods and implementing improved feedback to learners.
- ✓ Turning geographically dispersed learners into a valuable teaching resource by enabling them to contribute their local knowledge and research data more easily.
- ✓ Supporting learner retention, progression and transition.
- ✓ Making the learning experience more tailored to the changing needs of individuals, encouraging learners to return for knowledge updating and further study.
- ✓ The learning material is mostly colorful and inviting which may prompt students to go back and forth and practice more.
- ✓ Learner gets stimulated in learning.
- ✓ Convenient.
- ✓ Interesting.





## COMPARISON BETWEEN THE DISADVANTAGES OF E-LEARNING AND M-LEARNING

### Disadvantages of E-learning:

- ✓ **Requires knowledge and skills:** E-learning requires special knowledge and skills for the use of multimedia Internet and Web technology on the part of the users. Lack of knowledge and skills on this account may prove futile in taking advantages from the valuable services of E-learning.
- ✓ **Lack of equipment:** Most of our schools are not at all ready, willing and equipped for making use of E-learning in the proper interest of the teachers and students. Leaving aside a small number of self-financing public schools meant for children of rich parents, most of the schools in our country cannot even imagine for venturing in the area of E-learning.
- ✓ **Costly:** E-learning is more costly than traditional education. E-learning tools are very expensive. Their repair is also very expensive. Hence, E-learning is beyond the rich of most of the students. They do not have resources for purchasing electronic equipment.
- ✓ **Feeling of Isolation and Missing Social Contact:** The feeling of isolation experienced by the users of E-learning is one of the main defects quite visible in any system of distance learning including E-learning. There is no face-to-face interaction and humanistic touch profoundly available in the traditional class room setup. Moreover the lack of social participation and community sharing experiences



may prove handicap to the students of E-learning in their adequate physical, emotional and social development.

- ✓ **Lack of provision for teacher training programme:** There is lack of provision of equipping the teachers in their pre-service or in-service programmes for getting acquainted with the knowledge and skills required on their part for the use of E-learning at their work places. As a result, the teachers neither have any inclination towards E-learning nor have any competence for its organization in the school or providing guidance to their students in its use.
  - ✓ **Negative attitude:** An overall attitude of the learners, teachers, parents, educational authorities and society is usually found negative towards the processes and products of E-learning. E-learning is adjusted as second rate in comparison to regular classroom teaching.
  - ✓ **Adverse effect on health:** E-learning adversely affects the eyesight and some other parts of the body. The learners become physically inactive. Sometimes they become victims of physical diseases.
  - ✓ **Lack of co-curricular activities:** Co-curricular activities have great importance in the field of learning and education. But these activities are neglected in E-learning.
  - ✓ **Technical defect:** E-learning is based on technology. When technical defect occurs, E-learning stops. As a result, continuity of learning is broken and there is no progress in E-learning. Stressful and consumed more time.
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### **Disadvantages of M-learning:**

- ✓ There is no denying that the storage capacities of PDA are limited.
- ✓ Device may become outdated quickly and students have to keep combating obsolescence.
- ✓ The buttons on the keypad or styles pens are small and can be tricky for some people to manipulate. There are attachable keyboards available for some devices but these are also small, can be difficult to use to cost money.
- ✓ Too small display.
- ✓ Usable with some models only.
- ✓ Network connectivity limitations.
- ✓ Expenses / Costs.

### **SIMILARITIES AND DIFFERENCES BETWEEN E-LEARNING AND M-LEARNING**

#### **Similarities Between E-Learning And M-Learning:**

- ✓ Each of them needs an infrastructure and a wide community base in dealing with wire and wireless electronic computer technologies.
- ✓ Each of them needs a high cost technological system.
- ✓ E- and M-learning provide students with digital literacy focusing on information processing.
- ✓ Students are center of learning process in both models (Self- Learning).



- ✓ In both learning models students can access and surf the internet.
- ✓ E-and M- learning models allow communication between individual students and between students and teachers anywhere and at anytime from one hand, and communication with local and international on the other via the use of e-mails and text message.
- ✓ In both learning models the learning content is delivered in the form of texts, images and video clips.
- ✓ Both learning models depend on developing problem solving and creative thinking skills among students.
- ✓ E-and M- learning models are capable of providing learning opportunities to many students.
- ✓ Learning material can be updated continuously in both learning models.

### **Differences Between E-Learning And M-Learning:**

- ✓ E- learning use fixed, wire devices such as PC's, but mobile learning uses wireless communication devices such as cell and smart phones, micro computers and personal digital assistants.
- ✓ In E- learning, access to the internet is achieved the available telephone service, while mobile learning uses IR when accessing the internet anywhere at any time.
- ✓ In E- learning, messages are exchanged via the internet whereas MMS and SMS messages are used to exchange information between users.



- ✓ In E-learning, it is difficult to transfer books and files between individual learners, while in mobile learning, Bluetooth and IR technologies are used to exchange books and files among learners.
- ✓ Storage applications used in E-learning are more effective than ones used in mobile learning.
- ✓ Communication channels used in E-learning have low protection levels as learners use more than one device, whereas mobile learning provides users with more protection as learners use their own devices to connect with others.
- ✓ It is difficult to pass devices through learners in E-learning while these devices are easy to pass between learners in mobile learning.

## CONCLUSION

However E- and M-learning play an important in the field of modern education. In spite of some differences, there are some relationship lies in them. E- and M-learning encourage both teachers and students to take personal responsibility for their own learning. When teachers succeed it builds self-knowledge and self-confidence in them. The recent trend in E-learning sector is screen casting. E- and M-learning will also bring substantial change in the method of spreading knowledge to improve the quality in teacher education and hence will make teachers of global standard. Thus, these are beneficial to education, corporations and to all types of teachers / learners. It is the effective learning process created by combining digitally delivered

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content with learning support and service. Therefore, we can conclude that teachers need to acquire technological skills in order to succeed in E-learning. Mobile technology is also used in learning purpose. It is an innovative educational approach which provides learning opportunities to the students.

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## **AWARENESS ABOUT EDUCATIONAL TECHNOLOGY AND APTITUDE TOWARDS TEACHING**

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### **INTRODUCTION**

Technology produces successful professionals. The farmers, fishermen, vegetable venders, milk vendor, fish mongers, sportsmen, doctors, engineers, lawyers, common people and students exploit the benefit of technology. They use technology in order to achieve success and satisfaction. Teachers also used technology at their home for their personal requirements. All the professionals update their machines, material and approaches to withstand in their business. Unfortunately still now, most of the schools do not have required number of good blackboard. Technology rarely visits the Indian classrooms.

Aptitude and achievement are the same, though they differ as viewed by Dandapani, S (2007) for him, an achievement test takes and retrospective look upon a student's performance: aptitude stress upon a score for future training. Without past achievement one cannot obtain a good score for the future training. It is defined as "the measure of the probability of the success of an individual with training in a certain type of situation like a job, school etc" by Bingham, (1937).



## OBJECTIVES

1. To find out the level of awareness about Educational Technology (ET) of distance learners of B.Ed. course with respect of Gender, Years of Experience, Type of School Management.
2. To find out the level of Teachers Aptitude (TA) among the distance learners of B.Ed. course with reference to their Gender, Years of Experience, Type of School Management.
3. To find out any significant difference in the awareness about Educational Technology.
4. To find out any significant difference in the aptitude of teaching of distance learners (DL) of B.Ed. course with reference to their Gender, Years of Experience, Type of School Management.
5. To find out the correlation between the awareness of educational Technology and teaching aptitude of distance learners of B.Ed. course.

## HYPOTHESES

1. There is no equal level of mean scores of awareness about Educational Technology among the distance learners of B.Ed. course.
  2. There is no equal level of mean scores of aptitude towards teaching among distance learners of B.Ed. course.
  3. There is no significant difference in the mean scores of awareness about Educational Technology among distance learners of B.Ed. course with respect to: a) Gender; b) Years of Experience; c) Type of School Management.
  4. There is no significant difference in the mean scores of aptitude towards teaching among distance learners of B.Ed. course with respect to: a) Gender; b) Years of Experience; c) Type of School Management.
  5. There is no significant high relationship between the mean scores of awareness about Educational Technology and aptitude towards teaching among distance learners of B.Ed. course.
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## **METHOD**

The normative survey method was employed in this study. In order to receive the data two separate questionnaires were distributed among the cross-section of the sample. On, the data were quantified using statistical techniques.

## **TOOL**

In the present study, to measure the awareness of Educational Technology, a scale developed by Amardeep and Singh (1998) was used. To estimate the teaching aptitude, a test battery developed by Karim, Shimim and Dixit, S.K. (1985) was used. The Educational Technology awareness scale consisted of 30 statements in 5 point scale. The teaching aptitude test battery consisted of 80 items. The responses were elicited in 5 point scale.

## **SAMPLE**

Among the various techniques of sampling, based on the merit and suitability of research, non-proportionate random sampling technique was adopted. The size of the sample was 100. The population consisted of 500 distance learners of B.Ed. course of Sri Venkateswara University, Tirupati, Andhra Pradesh. The sample consisted of 66 female and 34 male teachers. Out of 100 teachers, 76 belonged to Government school, 19 were from aided school and 5 were self-finance school teachers.

## **ADMINISTRATION OF THE TOOL**

The tools were neatly printed and personally circulated to the target sample. Adequate instructions were given and doubts were cleared. They were requested to respond correctly in the appropriate column.

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## STATISTICAL TECHNIQUE

For the analysis and interpretation the collected data were given for statistical treatment. The frequency distribution, arithmetic mean, standard deviation, 't', 'F' and 'r' values were found out.

## ANALYSIS OF THE DATA

**Table - 1: shows the level of awareness of Educational Technology**

S. No	Variable		Levels of awareness about Educational			Total
			Low awareness	Moderate awareness	High awareness	
1	Gender	Male	7	24	3	34
		Female	6	47	13	66
		Total	13	71	16	100
2	Type of Management	Government	10	53	13	76
		Aided	1	17	1	19
		Self - Financed	2	1	2	5
		Total	13	71	16	100
3	Years of Experience	Less than 10 years	10	52	11	73
		More than 10 years	3	19	5	27
		Total	13	71	16	100

The table-1 indicates the three levels of awareness about Education Technology. It indicates most of the distance learners, male as well as female possess moderate level of awareness. Among the 100 units of the sample 71 units belong to the



category of moderate level. Being working teachers they might have possessed high-level of awareness. Only least number of teachers have high as well as low level awareness the groups of all the variables are unequal and vary. The null hypothesis is not rejected.



**Table-2: Shows the various levels of teaching aptitude**

<b>S. No</b>	<b>Variable</b>		<b>Very poor Teacher</b>	<b>Poor Teacher</b>	<b>Average Teacher</b>	<b>Efficient Teacher</b>	<b>Most efficient Teacher</b>	<b>Total</b>
<b>1</b>	<b>Gender</b>	<b>Male</b>	7	7	5	5	10	<b>34</b>
		<b>Female</b>	13	13	11	16	13	<b>66</b>
		<b>Total</b>	<b>20</b>	<b>20</b>	<b>16</b>	<b>21</b>	<b>23</b>	<b>100</b>
<b>2</b>	<b>Type of Management</b>	<b>Government</b>	15	16	10	18	17	<b>76</b>
		<b>Aided</b>	2	3	5	3	6	<b>19</b>
		<b>Self – Financed</b>	3	1	1	0	0	<b>5</b>
		<b>Total</b>	<b>20</b>	<b>20</b>	<b>16</b>	<b>21</b>	<b>23</b>	<b>100</b>
<b>3</b>	<b>Years of Experience</b>	<b>Less than 10 years</b>	17	15	11	14	16	<b>73</b>
		<b>More than 10 years</b>	3	5	5	7	7	<b>27</b>
		<b>Total</b>	<b>20</b>	<b>20</b>	<b>16</b>	<b>21</b>	<b>23</b>	<b>100</b>



The above table-2 shows the various levels of teaching aptitude of the Distance Learners. It indicates the first two levels (very poor teacher and poor teacher) and the last two levels have equal number of distribution. The average level has been shared by least number of teachers. However, the last two levels should have got more number of respondents. Therefore, it may be concluded that all the levels are equal with very slight variations. The stated hypothesis is not accepted.

**Table-3: significance of the difference in awareness of Education Technology score of male and female**

Gender	N	Mean	SD	Calculated 't' value	Level of significance
Male	34	75.82	11.09	0.013	Not Significant
Female	66	82.48	13.03		

The obtained 't' value 0.013 is less than the table value 2.56 at 0.05 level. Hence, the null hypothesis is not rejected. It is inferred that there is no significant difference between male and female in awareness of Educational Technology score.

**Table-4: significance of the difference in aptitude towards teaching scores of male and female**

Gender	N	Mean	SD	Calculated 't' value	Level of significance
Male	34	231.7	9.53	0.664	Not Significant
Female	66	230.65	12.76		



The obtained 't' value 0.664 is less than the table value 2.56 at 0.05 level. Hence, the null hypothesis is not rejected. It is inferred that there is no significant difference between male and female in the aptitude towards teaching score. The gender could not bring out any change in aptitude.

**Table-5: Test of significance of the difference in awareness of Educational Technology score of less than and more than 10 years of experience**

Years of Experience	N	Mean	SD	Calculated 't' value	Level of significance
Less than 10	73	230	12.51	0.154	Not Significant
More than	27	233.77	8.9		

The obtained 't' value 0.154 is less than the table value 2.56 at 0.05 level. Hence, the null hypothesis is not rejected. It is interred that there is no significant difference between the above two groups in awareness of Educational Technology score. The year of experiences do not produce any difference in their awareness.

**Table-6: Test of significance of the difference in aptitude towards teaching scores of male and female**

Years of Experience	N	Mean	SD	Calculated 't' value	Level of significance
Less than 10	73	80.04	12.48	0.819	Not Significant
More than	27	80.70	13.75		





The obtained 't' value 0.819 is less than the table value 2.56 at 0.05 level. Hence, the null hypothesis is not rejected. It is inferred that there is no significant difference between the above two groups in the aptitude towards teaching score. Because of the number of years of experience, the groups do not vary.

**Table-7: Test of analysis of variance of awareness of Educational Technology scores-Type of School Management**

Source of variance	df	Sun of squares	Mean squares	Calculated 'F' value	Level of significance
Between	2	26.068	13.034	0.078	Not Significant
Within	97	16115.092	166.135		

The obtained 'F' value 0.078 is less than the table value with df 2/97 at 0.05 level. Hence, the null hypothesis is not rejected. Owing to variation in the type of management, the groups do not vary in awareness of Educational Technology.

**Table-8: Test of analysis of variance of aptitude towards teaching scores-Type of School Management**

Source of variance	df	Sun of squares	Mean squares	Calculated 'F' value	Level of significance
Between	2	978.69	489.34	0.078	Not Significant
Within	97	12645.26	130.36		



The obtained 'F' value 0.078 is less than the table value with df 2/97 at 0.05 level. Hence, the null hypothesis is not rejected. Due to difference in type of management, there found no difference among the groups.

**Table-9: Shows the relationship between awareness about Educational Technology and aptitude towards teaching.**

Variables	No. of Respondent	Category	Correlated 'r' value
Distance learners of B.Ed.	100	Awareness about Educational Technology	0.092
		Aptitude towards teaching	

The analysis of the data from the table -9 reveals that there is no high relationship between awareness about Educational Technology and aptitude towards teaching. Hence, the stated hypothesis is accepted and retained.

## CONCLUSION

It is concluded from the study that male and female of B.Ed. course of distance learning programme have only moderate level of awareness on Educational Technology on the other hand, even after having several years of experience both male and female teachers have only 44% of efficient and most efficient teaching aptitude. Hence, the study reflects their knowledge on Educational Technology and aptitude towards teaching. Based on the outcome of the investigation, a special training programme on



production and application of various teaching materials, methods and machines can be given.

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## ANALYSIS OF FORECASTING OF STOKES IN FINANCE WITH NEURAL NETWORK

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### 1. Introduction

Approaches to forecasting the future direction of share market prices fall broadly into two categories—those that rely on ***technical analysis***, and those that rely on ***fundamental analysis***. While technical analysis uses only historical data (past prices, volume of trading, volatility, etc.) to determine the movement in the price of some financial asset, fundamental analysis is based on external information; that is, information that comes from the economic system surrounding the market. Such information includes interest rates, prices and returns of other assets, and many other macro- or micro-economic variables. The use of technical analysis goes against the grain of conservative academic opinion, which regards this behavior as irrational given the *efficient markets hypothesis* (Milkier 1996). The efficient markets hypothesis asserts that the price of an asset reflects all of the information that can be obtained from past prices of the asset. The argument is that any opportunity for a profit will be exploited immediately, and hence disappear. That is, the market is so

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efficient that no one can buy or sell quickly enough to consistently benefit. A consequence of the efficient markets hypothesis is that stock prices follow a random walk and are unpredictable based on any amount of historical data. The most appropriate investment strategy is thus a buy-and-hold strategy. Despite the implications of the efficient markets hypothesis, many traders continue to make buy and sell decisions based on historical data. These decisions are made under the premise that patterns exist in that data, and that these patterns provide an indication of future movements. If such patterns exist, then it is possible in principle to apply automated pattern recognition techniques such as neural networks to the discovery of these patterns. Several sources have reported on the simulation of trading agents based on Artificial Neural Networks (ANNs) (White 1988; Kimoto et al 1990; Yoon & Swales 1991; Weigend & Gershenfeld 1994). While the traditional approach to supervised neural network weight optimization is the well-known backpropagation algorithm (Rumelhart & McClelland 1986), Beltratti, Margarita and Terna (1996) report on the use of genetic search for neural network weight optimization in this domain. One of the advantages of genetic search as a weight-optimization technique is that it allows flexibility in the choice of criteria that can be used as an objective function to guide search through the space of weight configurations. Thus, rather than making buy/sell decisions on the basis of a numerical prediction of the next day's price, genetic weight optimization allows a trading regime to be discovered that optimizes the financial *return* over some training period.

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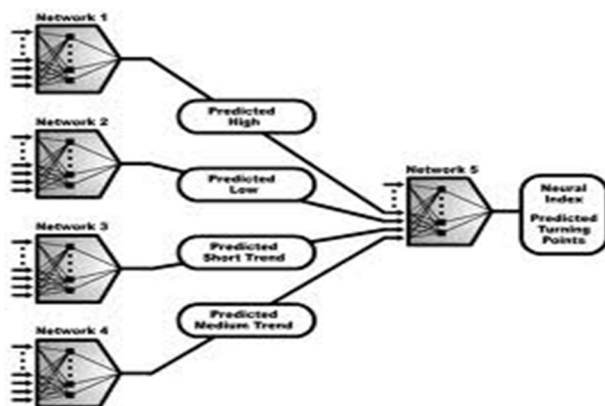
In this paper we describe the methodology by which neural networks can be trained indirectly, using a genetic algorithm based weight optimization procedure, to determine buy and sell points for financial commodities traded on a stock exchange. In order to test the significance of the returns achieved using this methodology, we compare the returns on four financial time series with returns achieved on random walk data derived from each of these time series using a bootstrapping procedure. The bootstrapped samples contain exactly the same distribution of daily returns as the original series, but lack any serial dependence present in the original. Our results indicate that on some price series the return achieved is significantly greater than that which can be achieved on the bootstrapped samples. This lends support to the claim that some financial time series are not entirely random, and that—contrary to the predictions of the efficient markets hypothesis—a trading strategy based solely on historical price data can be used to achieve returns better than those achieved using a buy-and-hold strategy.

## **2. Neural Networks for Automated Trading**

One approach to developing neural network trading models is to first train the neural network to predict the value of the closing price of some asset one or more days into the future. An entry/exit (i.e. *buy* or *sell*) decision can then be made on the basis of this prediction. This section describes an alternative approach that does not attempt exact numeric prediction of the asset value, but rather, attempts to recognize patterns in the input data that can provide clues as to the optimal

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points to make buy or sell decisions. The neural network buying and selling agent we use consists of an input layer, one hidden layer of sigmoidally activated units, and a single sigmoidally activated output that is thresholded such that output values above 0.5 are interpreted as a *buy* signal, and all other values are interpreted as a signal to *sell*. The inputs to the network are typically the price of the asset at the close of trade on the previous trading day, and variables derived from this. These could include moving averages, various delayed inputs (price two days prior, etc.).<sup>1</sup> The network is shown schematically in Figure 1.



**Figure 1 Neural Network for Automated Trading**

The buy and sell signals that are generated by the network, in conjunction with the particular trading strategy that is adopted, determines the trading position. The trading strategy that we adopt is a *one-point* buying and selling strategy. This means that all available capital is invested in shares, or all capital is invested in some low risk fixed interest security. On the basis of the trading



signal issued by the network, either the low-risk security is sold and shares are bought (*buy* signal), or vice-versa (*sell* signal). Note that shares can only be sold if the investor is currently 'in the market', and bought if the investor is "not in the market". The most common approach to neural network weight optimization is backpropagation training (Rumelhart & McClelland 1986). Backpropagation is a supervised training algorithm that relies on the availability of a set of labeled training data. However, direct (i.e. *supervised*) training of the network is not possible in this case, since we are not supplied with labeled training data. That is, we do not know *a priori* what are the optimal buy and sell.

### **3. Towards a Better Robust Financial Forecasting**

#### **Model**

In working towards a more robust financial forecasting model, the following issues are worth examining. First, instead of emphasizing on the forecasting accuracy only, other financial criteria should be considered. Current researchers tend to use goodness of fit or similar criteria to judge or train their models in financial domain. In terms of mathematical calculation this approach is a correct way in theory. As we understand that a perfect forecasting is impossible in reality. No model can achieve such an ideal goal. Under this constraint, seeking a perfect forecasting is not our aim. We can only try to optimize our imperfect forecasts and use other yardsticks to give the most realistic measure. Second, there should be adequate organization and processing of forecasting data. Preprocessing and proper sampling of input data can have impact on the forecasting

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performance. Choice of indicators as inputs through sensitivity analysis could help to eliminate redundant inputs. Furthermore, NN forecasting results should be used wisely and effectively. For example, as the forecast is not perfect, should we compare the NN output with the previous forecast or with the real data especially when price levels are used as the forecasting targets?

Third, a trading system should be used to decide on the best tool to use. NN is not the single tool that can be used for financial forecasting. We also cannot claim that it is the best forecasting tool. In fact, people are still not aware of which kind of time series is the most suitable for NN applications. To conduct post forecasting analysis will allow us to find out the suitability of models and series. We may then conclude that a certain kind of models should be used for a certain kind of time series. Training or building NN models is a trial and error procedure. Some researchers are not willing to test more on their data set [14]. If there is a system that can help us to formalize these tedious exploratory procedures, it will certainly be of great value to financial forecasting. Instead of just presenting one successful experiment, possibility or confidence level can be applied to the outputs. Data are partitioned into several sets to find out the particular knowledge of this time series. As stated by David Wolpert and William Macready about their No-Free-Lunch theorems [28], averaged over all problems, all search algorithms perform equally. Just experimenting on a single data set, a NN model which outperforms other models can be found. However, for another data set one model which outperforms NN model can also be found according to No-Free-Lunch theorems. To avoid such a case of one model outperforming others, we partition the

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data set into several sub data sets. The recommended NN models are those that outperform other models for all sub time

horizons. In other words, only those models incorporated with enough local knowledge can be used for future forecasting. It is very important and necessary to emphasize these three issues here. Different criteria exist for the academics and the industry. In academics, sometime people seek for the accuracy towards 100%. While in industry a guaranteed 60% accuracy is typically aimed for. In addition, profit is the eventual goal of practitioners, so a profit oriented forecasting model may fit their needs. Cohen [5] surveyed 150 papers in the proceedings

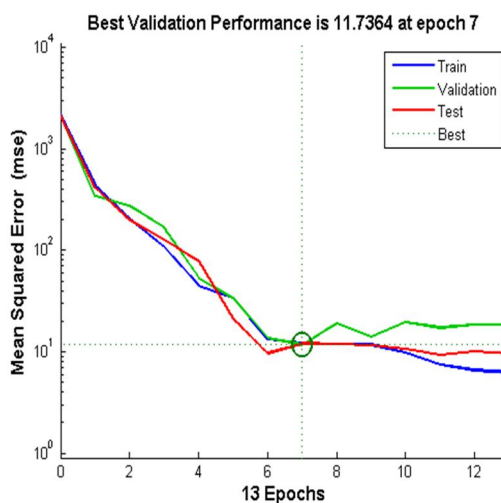
of the 8th National Conference on artificial intelligence. He discovered that only 42% of the papers reported that a program had run on more than one example; just 30% demonstrated performance in some way; a mere 21% framed hypotheses or made predictions. He then concluded that the methodologies used were incomplete with respect to the goals of designing and analyzing AI system. Tichy [20] showed that in a very large study of over 400 research articles in computer science. Over 40% of the articles are about new designs and the models completely lack experimental data. In a recent IEEE computer journal, he also points out 16 excuses to avoid experimentation for computer scientists [21]. What he is talking is true and not a joke.

#### **4. Experimental Design**

As described in the introduction, a consequence of the efficient markets hypothesis is that price series follow a random walk, and hence any trading strategy based on timing or predicting the market will never consistently

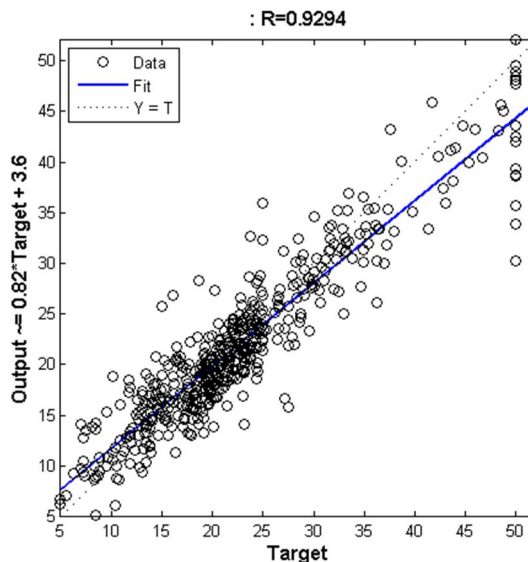
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outperform a simple buy-and-hold strategy. However the trading strategy described above has been observed to outperform a buy-and-hold strategy on some financial price series (Skabar & Cloete 2001; Cloete and Skabar 2001). How might we determine whether the observed returns achieved by using the neural network trading agent to time buy and sell points based on historical data are real or anomalous?



**Figure 2 Validation Performance using ANN.**

One way of testing this is to compare the performance of the procedure on real data with performance on one or more sets of random walk data.



**Figure 3 Target Achiever rate**

If performance on the random data does not differ significantly with that on real data, then we cannot claim to have discovered any real ***predictability***. We first address the problem of generating random walk data.

## 5. Hypothesis Testing

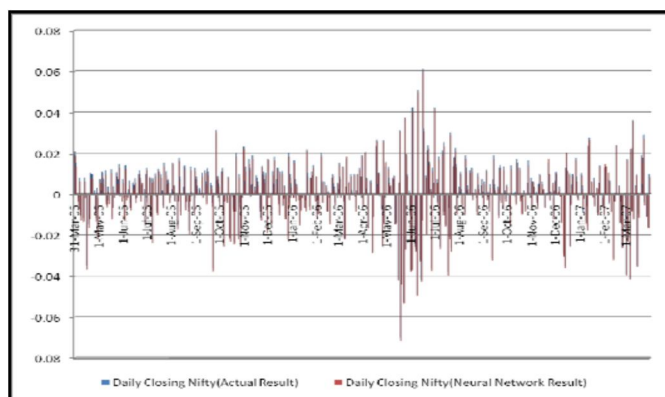
We are interested in determining whether the return achieved by applying the procedure of Section 2 to a real price series differs significantly to that achieved by applying it to the pseudo price series. Thus, the null hypothesis can be expressed as follows:

**H0:** There is no significant difference between the return achieved when the procedure is applied to the real time series and the return achieved when the procedure is applied to the pseudo time series.

The corresponding alternative hypothesis is thus:

**H1:** There is a significant difference between the return achieved when the procedure is applied to the real time series and the return achieved when the procedure is applied to the pseudo time series.

The null hypotheses can be tested by applying the procedure we have described in Section 2 to each of the pseudo time series that have been produced using the bootstrapping procedure. This will result in some empirical distribution of overall returns. The return on the *original* series can then be compared with this distribution of returns and a p-value obtained.



**Figure 4 Cost Prediction with Artificial Neural Network**

The  $p$ -value simply provides the probability of observing a result as extreme, or more extreme, than that which would be expected if the null hypothesis were true; the smaller the  $p$ -value, the less likely the null hypothesis is true.<sup>4</sup> Rejection of a null hypothesis would allow us to accept the alternative hypothesis that the return achieved on the original price series is significantly different to that which we would be expected if the series was random. And this, in turn, would imply that



there is some serial dependence in the original time series (which is not present in the pseudo time series), thus providing support against the efficient markets hypothesis.

## 6. Discussions

We believe that our methodology is reasonably free from criticisms of data-snooping for the following reasons. Firstly, every experiment that we conducted—across all four indices—used exactly the same network structure, the same inputs, the same learning parameters, and the same training/test set samplings. The only difference was that between the actual time series. Secondly, by performing many trials on the original price series using different test set windows, we can be quite confident that the average returns we achieved are not anomalous.

A second criticism often directed at research which purports to have discovered a trading strategy that outperforms a buy-and-hold strategy is that the costs associated with trading have not been accounted for. Our experiments have been performed incorporating a trading cost of 0.1% per trade, which is currently the approximate commission for online trading. It is interesting to note the relatively low frequency of trading performed by the network, which ranges from a maximum of approximately 10 trades per year on the Dow Jones data to a minimum of approximately 5 trades per year on the Australian All Ordinaries. This trading frequency is significantly less than that of network traders based on *forecasting* numerical



price movements. What might be the cause of the differences in being able to successfully trade using these four indices? One possible explanation for this could be the fact that the Dow Jones and Australian All Ordinaries indices are *blue chip* indices. That is, they represent the averaged values of a large number of large, established, stable, and relatively secure companies. In contrast, the S&P500 and the NASDAQ include a significant proportion of *tech.* stocks, whose prices are known to have been much more volatile than blue chip companies, especially in recent years (recall the bursting of the technology stocks bubble). The inclusion of such volatile stocks in the makeup of these indices may make these series more chaotic, thus reducing the capacity to time trading decisions on past prices of these indices. However, this is highly speculative and experiments would need to be designed to test these ideas formally.

A rather obvious question that arises out of the results of this research is that if it is possible to exploit historical prices on the Dow Jones data to achieve a return better than a buy-and-hold strategy, how might we identify other series with this same property. That is, how might we determine *a priori* whether some given price series possesses such a desirable quality? One approach to this would be to perform the same experiments described in this paper over very many different price series and, on the basis of the results, assign each of these series some

measure of what may cautiously be called 'predictability'. Patterns could then be sought between these so-called

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***predictability*** values and measurable statistical properties of the price series (autocorrelation, Box-Pierce Q statistics, etc.). We leave this exploration for future work.

## **7. Conclusions**

This paper has described a methodology by which neural networks can be trained indirectly, using a genetic algorithm based weight optimization procedure, to determine buy and sell points for financial commodities traded on a stock exchange. In order to test the significance of the returns achieved using this methodology, the returns on four financial price series were compared with returns achieved on random walk data derived from each of these series using a bootstrapping procedure. These bootstrapped samples contain the same distribution of daily returns as the original series, but lack any serial dependence present in the original. The results indicate that on the Dow Jones Industrial Average Index, the return achieved over a four year out of sample period are significantly greater than that which would be expected had the price series been random. This lends support to the claim that some financial time series are not entirely random, and that—contrary to the predictions of the efficient markets hypothesis—a trading strategy based solely on historical price data can be used to achieve returns better than those achieved using a buy-and-hold strategy.





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## **TRENDS IN MIGRATION: A STUDY ON DOMESTIC MIGRANT LABOUR IN KERALA**

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### **INTRODUCTION**

Increasing international migratory flows in the last four decades is one of the most visible manifestations of the globalization<sup>1</sup> process. The migration of people from place to place in search of better opportunities and higher living standard goes back centuries. Before the World War II, the major migration distance used to be limited within a country or region unless they were arranged for labor transfer to cater need of the colonial power countries. Now, 'People from developing countries are moving towards the developed countries as migrant workers. The flow of information, skills, and remittances has dramatically changed the nature and scope of international migration today. International labor migration has become a survival strategy for men and women of many least developed and developing countries (Nepal Migration Year Book -2006).

### **MIGRATION: GLOBAL ESTIMATES AND TRENDS**

One of the most conspicuous signs of the process of globalization is the increase in migratory flows among countries, regions and continents. In an increasingly integrated world,

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1 Globalization refers to the increased movements of goods, capital, and services over borders, and the gradual transformation of national markets into regional and global markets.

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people—although with significant restrictions—move across national borders, seeking opportunities on foreign soils that are denied them in their own countries. According to the United Nations, there were about 214 million international migrants in 2010. In relative terms, this corresponds to over 3 per cent of the world population. In other words, one of out of every 33 persons in the world today is a migrant (whereas in 2000 one out of every 35 persons was a migrant). The percentage of migrants has remained relatively stable as a share of the total population, increasing by only 0.2 per cent (from 2.9 to 3.1 per cent), over the last decade. However, the percentage of migrants varies greatly from country to country. Countries with a high percentage of migrants include Qatar (87 per cent), United Arab Emirates (70 per cent), Jordan (46 per cent), Singapore (41 per cent), and Saudi Arabia (28 per cent). Countries with a low percentage of migrants include South Africa (3.7 per cent), Slovakia (2.4 per cent), Turkey (1.9 per cent), Japan (1.7 per cent), Nigeria (0.7 per cent), Romania (0.6 per cent), India (0.4 per cent) and Indonesia (0.1 per cent).

Migration is now more widely distributed across more countries. Today the top 10 countries of destination receive a smaller share of all migrants than in 2000. Women account for 50 per cent of global migrants. Remittances have increased exponentially: up from USD 132 billion in 2000 to an estimated USD 440 billion in 2010, even with a slight decline due to the current economic crisis. In 2010, the top recipient countries of recorded remittances were India, China, Mexico, the Philippines,



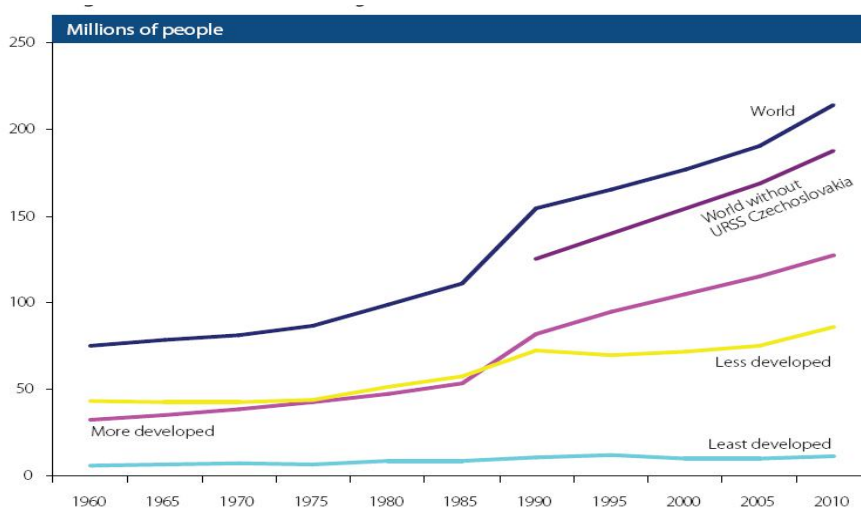
and France. \$325 billion Estimated remittances sent by migrants to developing countries in 2010.

There were 32.5 million estimated number of international migrants in Asia in 2010. Countries in Asia with the most international migrants are: India (5.4 million), Pakistan (4.2 million) and Kazakhstan (3.1 million). There were 19.3 million estimated number of international migrants in Africa in 2010. The countries in Africa with the most international migrants are: Cote d'Ivoire (2.4 million), South Africa (1.9 million) and Ghana (1.9 million). Intraregional migration, or movement within the region, represents the most common form of migration in Africa. There were 57.5 million estimated numbers of international migrants in the Americas and Caribbean in 2010. Countries in the region with the most international migrants are: United States (42.8 million), Canada (7.2 million) and Argentina (1.4 million). The United States is the top migrant destination country in the world, hosting 20 per cent of the world's migrants. In Europe there were 72.1 million estimated number of international migrants in 2010. Countries in the region with the most migrants are: Russian Federation (12.3 million), Germany (10.8 million) and United Kingdom (6.4 million). 26.5 million estimated number of international migrants in the Middle East in 2010. Countries in the region with the most migrants are: Saudi Arabia (7.3 million), United Arab Emirates (3.3 million) and Jordan (3 million). There were 6 million estimated number of international migrants in Oceania in 2010. Countries in the region with the most international migrants are: Australia (4.7 million) and New Zealand (962,000). Migrant workers (those who migrate for employment) and their families account for about 90 per cent of total international migrants. Nonetheless, many migrant workers do not enjoy decent work, but instead suffer

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from low wages, unsafe working environments, non-payment of wages, a virtual absence of social protection, denial of freedom of association and workers' rights, discrimination and xenophobia. Studies show that migrant workers in the EU and OECD countries have higher unemployment rates than natives and, when in employment, tend to be segregated in low-skilled occupations. They are more likely to be overqualified for their work and they experience considerable job insecurity and less advantageous working conditions. Overall, temporary migrant workers, women and young migrants are particularly vulnerable. ILO research reveals that labour market discrimination against persons of migrant origin, including second and third generations, is pronounced in Europe and North America.

**Figure 1 Evolution of the Total emigrants**



Source: United Nations (UN/DESA), *International Migrant Stock*, 2008.



## CAUSES OF MIGRATION

There are numerous push and pull factors which influences people to migrate either forced or voluntary. They are:

**Table 1**

### **Push and Pull Factors of Migration**

<b>Push Factors</b>	<b>Pull Factors</b>
<b><i>Economic factors:</i></b> <ul style="list-style-type: none"> <li>• Lack of employment</li> <li>• Natural disasters (earthquakes, floods)</li> <li>• Lack of food or shelter</li> <li>• Lower standard of living</li> </ul>	<b><i>Economic Factors:</i></b> <ul style="list-style-type: none"> <li>• Hope for better employment</li> <li>• More money and food</li> <li>• Better shelter</li> <li>• Hope for family to have a higher standard of living</li> </ul>
<b><i>Social Factors:</i></b> <ul style="list-style-type: none"> <li>• Lack of health care</li> <li>• Lack of educational opportunities</li> <li>• Lack of religious tolerance</li> </ul>	<b><i>Social Factors:</i></b> <ul style="list-style-type: none"> <li>• Encouragement from family and friends</li> <li>• Better health care</li> <li>• Better educational opportunities</li> <li>• Religious tolerance</li> </ul>
<b><i>Political Factors:</i></b> <ul style="list-style-type: none"> <li>• Unfair legal system</li> </ul>	



<ul style="list-style-type: none"> <li>• Disenfranchisement (Not being able to vote) or lack of governmental tolerance</li> <li>• War and terrorism</li> </ul>	<p><b><i>Political Factors:</i></b></p> <ul style="list-style-type: none"> <li>• To gain protection under the law</li> <li>• Right to vote and freedom from persecution</li> </ul>
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## OVERVIEW OF INTERNAL MIGRATION IN INDIA

India is the largest recipient of international remittances in the world of which about 50% were classified as remittances towards family maintenance. Migration of persons within national borders is far greater in magnitude than migration across international borders and has enormous potential to contribute to economic prosperity, social cohesion and urban diversity. The Constitution of India (Article 19) gives the right to all citizens to "to move freely throughout the territory of India; to reside and settle in any part of the territory of India". India's total population, as recorded in Census 2011, stands at 1.21 billion. Internal migrants in India constitute a large population: 309 million internal migrants or 30 per cent of the population (Census of India, 2001), and by more recent estimates 326 million or 28.5 per cent of the population (NSSO 2007–2008). This far exceeds the estimates of Indian emigrants (11.4 million) (The World Bank 2011).

Migration in India is primarily of two types:

- i. Long-term migration, resulting in the relocation of an individual or household;





ii. Short-term<sup>1</sup> or seasonal/ circular migration, involving back and forth movement between a source and destination. Estimates of short term migrants vary from 15 million (NSSO 2007–2008) to 100 million (Deshingkar and Akter, 2009). Most short-term migrants belong to socio-economically deprived groups, such as Scheduled Castes or Scheduled Tribes, having negligible educational attainment, limited assets and resource deficits;

Since Independence, two distinct types of labour migration have been taking place from India. The first is characterized by a movement of persons with technical skills and professional expertise to the industrialized countries like the United States, Britain and Canada which began to proliferate in the early 1950s. The second type of migration pertains to the flow of labour to the oil exporting countries of the Middle East which acquired substantial dimensions after the dramatic oil price increases of 1973-74 and 1979. The nature of this recent wave of migration is strikingly different, as an overwhelming proportion of these migrants are in the category of unskilled workers and semi-skilled workers skilled in manual or clerical occupations.

Out of the total internal migrants, 70.7 per cent are women (Census of India 2001). Marriage is given as the prominent reason for female migration in both the rural and urban areas – 91 per cent of rural female migrants and 61 per cent of the urban female migrants (NSSO 2007–2008). Migration for employment-related reasons is given as the prominent reason for male migration in both rural and urban areas – 29 per cent rural male migrants and 56 per cent of urban male migrants (NSSO 2007–2008). Although no clear data are available, there

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are about 15 million child migrants in India (Daniel 2011; Smita 2011).

Migrants are mostly employed in domestic work, textile, brick-kilns, transportation, mines, quarries and agriculture sectors (Deshingkar and Akter 2009). Migrants face denial of basic entitlements including access to subsidized food, housing, drinking water, sanitation and public health facilities, education and banking services and often work in poor conditions devoid of social security and legal protection. In recent years, a very high rate of internal migration has been witnessed in India. Employment, by far, remains the biggest cause of migration in the country. Studies have found that the inter-state movement is not very high and most people remain within the same state after migration.

**Table 2**

**Seasonal Out-Migrants and Long-Term Out-Migrants:  
A Comparative Profile, 2007–2008 (in per cent)**

Social Group	Short Term - Out Migrants			Long term out Migrants Long		
	Rural	Urban	Total	Rural	Urban	Total
ST	20.1	3.5	18.6	6.8	2.2	6.0
SC	23.7	17.5	23.1	19.2	11.8	17.9
OBC	39.5	43.6	39.9	44.5	37.9	43.3
Others	16.7	7 35.4	18.4	29.5	48.0	32.8
Total	100	100	100	100	100	100

**Source: NSSO 2007–2008.**



## WHAT TRIGGERS THE MIGRATION TO KERALA?

Kerala is one of the smallest states in the Indian union. It occupies 1 per cent of the total land area of India with a population of 3.33 Crore, which is 3 % of the total population of India at the 2011 census. The state of Kerala has several features that distinguish it from the rest of India. The achievement of Kerala in the field of education, health, habitat, land reforms etc, generally constitutes what is widely known as 'Kerala Model of Development'. This achievement is the outcome of a long process, which started from pre colonial period and culminated with social changes and political transformation during the post independent period. The population distribution of Kerala according to religion is about 56.20 percent Hindu, 24.7 % percent Muslim and 19 % percent Christian. At present the state is administratively divided into 14 districts, which in turn are divided into 63 Taluks, 152 Blocks, 1532 Villages, 978 Grama (Village) Panchayats, 53 Municipalities and 5 Corporations.

The rise of migrant labour in Kerala in the last two decades is a direct consequence of a combination of the massive urbanization that the state has witnessed since the Nineties and the shortage of local labour.<sup>2</sup> Migrant labours are those who come from other states for work. Kerala is witnessing large inflow of migrant labour from different parts of the country in recent years. The last count shows that about 25 lakh migrant labourers

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2 The present Kerala economy is often described as a 'money order economy'. The total remittance in Kerala in 2011 was estimated to be approximately 55,000 crore compared with 43,228 crore in 2008. The number of Kerala migrants living in Other States of India (OMI) in 2011 is estimated to be 9.31 lakh up from 9.14 lakh (2 per cent increase) in 2008.

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are working in Kerala having a population of 3.33 crore. And their numbers are growing at an incredible pace of 10 per cent annually. Until recently, the largest number of in-migrants in the state is from the neighbouring state of Tamil Nadu. Significant number of migrants also came from Karnataka, Maharashtra, Andhra Pradesh, Pondicherry, Uttar Pradesh and West Bengal. The migrant Labour in Kerala is not a homogeneous mass, and are differentiated by language, their state of origin, religion and caste, the channels through which they reach Kerala, the place and sector in which they work and the wage and benefits they receive. It is interesting to note that while many Malayalees migrate to the 'Gulf' countries (Middle East) both for skilled and unskilled work, many of the unskilled labourers from other parts of the country consider Kerala as their 'Gulf'. With signs of rapid growth of state's economy and the increase in activities particularly in the infrastructure and construction sectors, the immigration is expected to grow faster in the coming years. The major reason for the influx of migrant labourers is attributed to the reluctance of the indigenous Malayali people to perform manual labour, as there is a social stigma attached to it and a prevalence of low wages. Table 3 draws on the recent Interstate Migrant Survey in Kerala (ISMSK) survey results, collected by the CDS over the course of 2012.



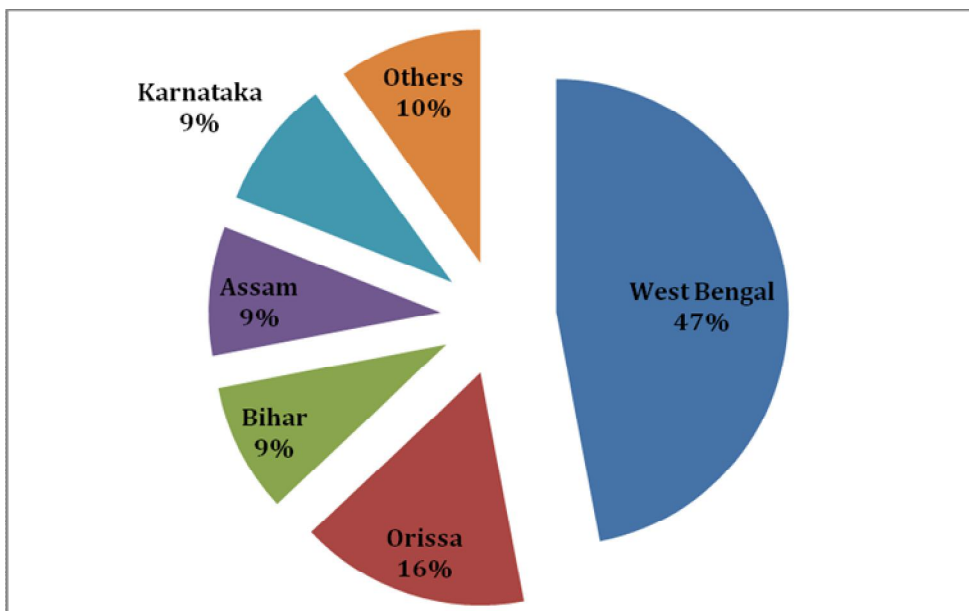
**Table 3**  
**Migrant Home State, by Sector**

	Casual	Construction	Domestic	Gold	Industry	Self-Employed	Sum	%
Andhra Pradesh	27	37	35	12	19	37	167	(8.0)
Arunachal Pradesh		4	3		1		8	(0.4)
Assam	31	40	33	3	29	16	152	(7.3)
Bengal				1			1	(0.0)
Bihar	55	56	44	23	36	25	239	(11.5)
Chhattisgarh	1						1	(0.0)
Gujarat		4			2	1	7	(0.3)
Jharkhand	5	13			4	5	27	(1.3)
Karnataka	6	5	4		2		17	(0.8)
Kashmir	1						1	(0.0)
Maharashtra	5	3	1	20	4		33	(1.6)
Manipur	1	4	9	1	1	7	23	(1.1)
Meghalaya			1				1	(0.0)
Mizoram		3				3	6	(0.3)
Odisha	64	58	42	19	39	14	236	(11.3)
Punjab	1					1	2	(0.1)
Rajasthan	7	1	2	2		5	17	(0.8)
Tamil Nadu	55	52	85	52	52	85	381	(18.3)
Tripura		2					2	(0.1)
Uttar Pradesh	50	57	38	60	45	56	306	(14.7)
West Bengal	56	108	65	119	65	46	459	(22.0)
<b>Sum</b>	<b>365</b>	<b>447</b>	<b>362</b>	<b>312</b>	<b>299</b>	<b>301</b>	<b>2086</b>	<b>(100)</b>

**Source:** CDS-ISMSK, 2012

According to a study conducted by Labour Commissionerate, Government of Kerala, out of the total ISM (Inter State Migrant) workers. West Bengal is the leading state by accomplishing 47 per cent of ISM workers which is followed by Orissa by 16 per cent.

**Figure 2**  
**State wise distribution of ISM workers**



Source: **Labour Commissionerate**, Government of Kerala

According to Gulati Institute of Finance and Taxation and Labour and Rehabilitation Department, Government of Kerala's study, the domestic migrant labour are almost entirely male and 75% of them are in the age group of 18-29 years; there are few above the age of 36 years. A handful of the migrant labour report that they are below 18 years of age. There is not much difference in the age distribution of migrant labour across the states of origin. About 70% of the domestic migrant labour are Hindus, 24% are Muslims and the rest are either Christians or have not reported their religion. An important fact is that the domestic migrant labour from Assam and West Bengal are about 50% Muslims.



**Table 3**  
**Distribution (%) of Domestic Migrant Labour by State of Origin and Age**

State	Age Class in Years						Percentage Share
	Below 18	18-23	24-29	30-35	36 and above	Not reported	
Uttar Pradesh	00	38.53	38.53	15.60	7.34	0	14.83
Assam	1.57	50.39	34.65	10.24	2.36	0.79	17.28
West Bengal	1.36	46.26	29.25	14.97	7.48	0.68	20.00
Bihar	0.75	34.59	33.08	21.05	9.03	1.50	18.10
Orissa	2.04	34.69	30.61	20.41	10.20	2.04	6.67
Others	1.18	37.65	37.65	14.71	8.82	0	23.13
Total	1.09	40.95	34.29	15.65	7.35	0.68	100

Source: D .Narayana, C S Venkiteswaran(2013), **Domestic Migrant Labour in Kerala**, Labour and Rehabilitation Department, Government of Kerala.

Details about the distribution of domestic migrant labour by occupation and sector of employment are given in Table 4. Their largest concentration is in the booming construction sector with 60% reporting it. Manufacturing, Hotel and Restaurants and Trade too report substantive number agriculture has also become dependent on migrant labour. The others group contains a multitude of sectors.

**Table 4**  
**Distribution of DML by Occupation and Sector of Employment**

Occupation	Sector of Employment							Total
	Agriculture	Construction	Hotel and Restaurant	Manufacturing	Trade	others	Not Reported	
Carpenter	-	0.54	-	0.14	0.14	0.81	0.14	1.90
Electrician	-	-	0.14	-	-	0.41	0.14	0.68
Mason/Flooring	-	3.54	-	-	-	-	0.14	3.68
Sales person	0.14	0.27	0.14	-	0.14	-	-	0.68
Tailoring	-	-	-	0.14	-	0.27	-	0.41
Skilled work	0.14	10.61	0.54	3.13	0.14	3.67	0.27	18.50
Unskilled work	2.04	43.40	5.44	4.22	1.36	11.56	1.50	69.52
Others	-	4.91	0.54	0.67	-	0.15	-	2.45
Not reported	-	0.27	0.14	0.14	-	0.68	0.95	2.18
Total	2.31	60.00	6.94	8.30	1.77	17.55	3.13	100

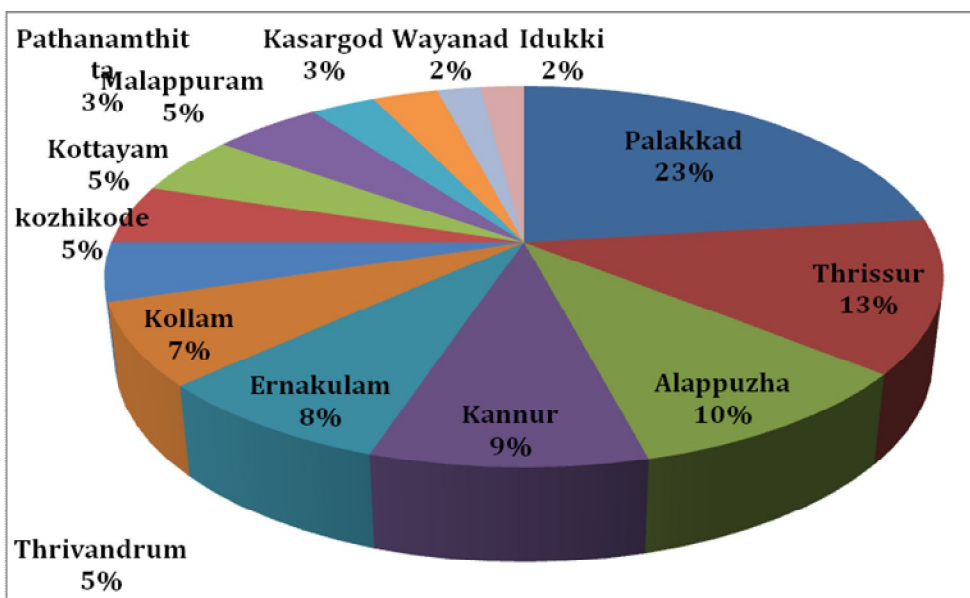
Source: D .Narayana, C S Venkiteswaran(2013), **Domestic Migrant Labour in Kerala**, Labour and Rehabilitation Department, Government of Kerala.

Poverty, unemployment, low wages in native state, economic hardships etc are the push factors behind migration to Kerala. Higher wages for unskilled labour in Kerala, large opportunities for employment, good labour conditions, social inclusion, health security, good climate etc are pull factor behind migration. Initially the labourers were employed in construction sector, but gradually other industries—plywood, chemical, Road works, Plantations, Brick Kilns, hotel etc—also joined in. They work 10-12 hours a day, and are paid considerably less than their few Malayalee counterparts get. In the last few years, there have



been many reported cases of burglary and rape in which these labourers have a direct link. The geographical area of migrant workers are Ernakulam, Idukki, Thiruvananthapuram, Palakkad ,Kasargod ,Kannur ,Thrissur ,Kozhikode ,Malappuram ,Wayanad ,Kollam ,Kottayam ,Pathanamthitta and Alleppey. Palakkad district accounted for the largest number and Idukki is the least number of interstate migrant labourers in Kerala (see Figure 2).

**Figure 3**  
**Percentage Distribution of Interstate Migrant workers in Kerala during 2013**



Source: **Economic Review 2013**, Kerala State Planning Board, Government of Kerala.



According to a study conducted by the *Gulati Institute of Taxation*, the workers from West Bengal, Orissa, Assam and Uttar Pradesh are pumping in about Rs 17,500 crore to their home states a year. The first comprehensive study done on migrant labour by Kochi-based Centre for Socio-economic and Environmental Studies (CSES) in 2011 attributes many factors for its rise in the state, ranging from the decline of agriculture and traditional industries in the migrant labourers' home states to the rising unemployment and rural poverty there. Other factors like high wages in Kerala and shortage of semi-skilled and unskilled labourers due to their large-scale migration to the Gulf have also contributed to the inflow, the study adds. "Kerala's economy might come to a standstill without migrant labourers,"

## **PROBLEMS OF MIGRANT LABOURERS**

Interstate migrant is a social hazard. The migrant workers are subjected to exploitation and they are paid very less wages. Reports points out that migrant workers have made their presence felt in all economic activities of the state without the urban-rural divide, yet they face systemic social exclusion from the government, employers and the media.

- a. Limited Access to Entitlements** - The living conditions of migrant workers everywhere is very pathetic. The Domestic Migrant Labour in Kerala are often living crowded in rooms with hardly space to move around. Migrants, in general, do not have resident status in the destination state. Usually, benefits of the schemes run by individual state governments are available to persons



having resident status in the respective state. (PDS, RSBY Comprehensive Health Insurance Scheme (CHIS). It appears that there is a need for better coordination between the governments in the host state, states of origin and the central government to make sure that the entitlements of inter-state migrants are not lost on account of migration. The initiative to provide unique identity to citizens which is underway in India may help to address the issue by synergizing it with entitlements of the citizens so that migrant labourers can enjoy their rights wherever they are.

- b. Language Barriers:** One of the major problems that migrant workers face when they reach Kerala is related to the differences in the languages spoken by the migrant workers and that of the host society. Being unable to speak to the local community or the service providers in their language makes them vulnerable on many occasions as may be seen later
- c. Health and Safety Risks:** Migrants are vulnerable because of crowded and unhygienic living conditions and inadequate provisions for their safety at the worksite. The limitations to access health care due to language barriers, lack of time, lack of knowledge about the public provisioning of health care etc. exacerbates their vulnerability. However, one advantage the migrants in Kerala is that they may be able to benefit from the relatively better health system and health care seeking practices in the state. A survey carried out by the health



department of Kerala found that many migrant labourers are carriers of deadly diseases like HIV, malaria, dengue, hepatitis-B, hepatitis-C etc.

- d. Limitation to Access Education:** The children of migrant workers usually stay back in their home villages. Large majority of the newly coming migrants from distant states are young and unmarried. Of the children staying in Kerala, language barriers pose problems in availing the educational facilities here.
- e. Unequal Wages:** There does not exist any uniform wage system. The migrant workers may be putting in work for one or two hours over and above the normal working hours and sometimes they may be required to work at night also. In terms of earnings, the migrant workers are much better off compared to their position in their home state.
- f. Identity and Police Surveillance:** Migrants are sometimes being branded as 'unreliable outsiders' and criminals by some local people. The Police also have contributed to fostering of this branding. No doubt, there are migrants from other states in the Criminal List published in the website of the Police Department. To distinguish the migrant workers from the criminals who have migrated to Kerala from other states, there is a need to have some identification documents for the workers.
- g.** One of the most striking characteristics of migrant labour in Kerala is their total insularity from the local population. On the one hand, everyone is aware that the supply and



labour of domestic migrant labour is absolutely essential for the State's economy; but on the other, they are also not very willing to accept the domestic migrant labour as equals, as citizens with all the democratic rights. Many of them look at the domestic migrant labour as a threat to security, health etc.

## **ATTITUDE OF GOVERNMENT TOWARDS MIGRANT LABOURERS**

Kerala is a State which ensures decent work, social protection and dignity of labour. Kerala is one of the first states in India, to introduce a welfare scheme for migrant labourers ensuring their pay, welfare, health and the educational aid to their families through Kerala Building and Other Construction Workers Welfare Fund Board with the assistance from the Government. They are preferred by employers as they charge low levels of wages; and they do not have the support of a Trade Union. The state government introduced a welfare scheme for the migrant workers on the May Day of 2010. Under the scheme titled 'Inter State Migrant Workers Welfare Scheme', a membership card is issued to each migrant worker who gets enrolled. Each registered worker would get up to Rs. 25,000 as healthcare assistance for in-patient care in empanelled hospitals in case of accidents or chronic diseases. However, the worker is eligible to get only Rs. 100 per day and the maximum limit fixed per episode of disease is Rs. 2000. If the labourers become incapable of undertaking jobs for more than six months due to accidents or chronic diseases, they are eligible to get a special assistance of up to Rs. 25000.



There is also a provision for assistance of Rs.3, 000 per annum for the education of the children of migrant labourers who are studying beyond Class X in Kerala. The scheme is implemented through the Kerala Construction Workers Welfare Fund Board which is also running a scheme for the welfare of the construction workers. That the actual number of workers registered in the first 18 months of its existence is only about 18000 indicate that most of the migrant workers remain outside the protective umbrella. One reason for the failure to enroll most of the migrant workers is the lack of awareness about the welfare scheme among the target group. There was no strategy to communicate directly with the migrant workers coming from different regions of India and speaking different languages and dialects.

The state has initiated a Kerala Migrant Workers' Welfare Fund, under which registered workers can claim medical benefits. The government is also planning a common shelter for these workers. Almost all labour laws are applicable to migrant workers also. One specific Act pertaining to inter-state migrant workers is the Inter-State Migrant Workmen (Regulation and Conditions of Service) Act 1979. Other laws include: Minimum Wages Act, 1948, Contract Labour (Regulation and Abolition) Act, 1970, Equal Remuneration Act, 1976, Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, Workmen's Compensation Act, 1923, Payment of Wages Act, 1936, Child Labour (Prohibition & Regulation) Act, 1986 and Bonded Labour Act, 1976.



## CONCLUSION

Migration is a complex interaction between countries of origin and destination. It has fundamental implications for social, cultural and economic change. Due to the limitations in portability of entitlements, the migrants are not able to enjoy some of the entitlements from central government and state governments they had enjoyed before migration. Low and variable agricultural production coupled with lack of local employment opportunities are the biggest cause of movement of people outside the state. Kerala, a state known for out-migration for several decades have turned into a state of immigration of late. The rise of migrant labour in Kerala in the last two decades is a direct consequence of a combination of the massive urbanization that the state has witnessed since the Nineties and the shortage of local labour. Lack of confidence in accessing local health services and lack of integration to it, long working hours, language and literacy barriers, lack of awareness about provision of health facilities etc generally insulate the migrant population from health care network of the state government. During the recent years some measures have been taken to improve the condition of such workers. Several awareness programmes have been conducted to improve the health, education and situation of migrant workers. Since the wages obtained in our state are comparatively higher than their native state, the migrant workers are more interested to work here. Moreover, the workers from Kerala hesitate to take up certain types of jobs which make a demand for the migrant labours. My conclusion is that unless Kerala society and government address the domestic migrant



labour question urgently and meaningfully, it is bound to throw up social problems and tensions of various kinds. Kerala, which has a huge population of men and women working all over the world, could be a model in ensuring the rights and freedom of the migrant population, a local society and culture.

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## ASCENT OF ENGLISH LANGUAGE GRANDEUR IN THE ERA OF GLOBALIZATION

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There was a time when life was family -/village - /community-centered. People interacted with each other in their own lingo within their community; everybody knew everybody. Feudalism was an accepted way of life with heads or leaders of families and communities; local loyalty was appreciated. Then came Industrial Revolution with its urbanization, capitalism and consumerism; life became more urban and migratory which brought Information Technology with it. The electronic revolution gave birth to the post-modern world with its virtual reality. The world started shrinking and became a 'global village' in terms of communication.

*"Language is any set or system of linguistic symbols as used in a more or less uniform by a number of people who are thus enabled to communicate intelligibly with one another".*

---Random House Dictionary of the English Language

### **The Legacy of history**

The English Language has been linked with migration since its first origins- the language came into being in the 5<sup>th</sup> century. But as world's language its history began in 17<sup>th</sup> century

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and in 19<sup>th</sup> century. British Empire, with its distinctive mix of trade and cultural politics, consolidated the world position of English, creating a

‘Language on which sun never sets.’

### **A New World Era:**

According to many economists, cultural theorists and political scientists, the new ‘world order’ expected to appear in the 21<sup>st</sup> century will represent a significant discontinuity with previous centuries. The internet and related information technologies, for example, may upset the traditional patterns of communication upon which institutional and national cultures have been built. We have entered a period in which language and communication will play a more central role than ever before in economic, political and cultural life – just at the moment in the history that a global language has emerged.

Looking back into past is a beginning and fundamental step towards comprehending the future. Any critical study of English language in the 21<sup>st</sup> century must start by analyzing how English reached its current emplacement? What are the factors behind the spread of English? And in what dominions of wisdom has English developed definite prominence and how recently?

English is outstanding for its nature- to change and be changed which has evolved in forms of English used in daily life. The chief areas of expansion in the use of English will undisputedly come from non-native speakers.



## **The progress of English**

According to the responses received by the British Council's English 2000 Global consultation questionnaire, it was found that:

World-wide there are over 1,400 million people living in countries where English has official status. One out of five of the world's population speaks English. Demand from the other four fifths is increasing. By the year 2000 it is estimated that over one billion people will be learning English. English becomes the main language of all arenas which leads to development of the world.

### **The seven ages of English**

The seven ages of English provides an overview of the history of English, from its birth in 5<sup>th</sup> century to the present day:

#### **1. Pre-English period (-C. AD 450)**

The birth of English was alarmingly well documented. At the time of roman invasion C.55BC, the indigenous languages of Britain were Celtic. The Romans made Latin an 'official' language of culture and government. In some points, the English language repeated the early history of Latin: it was brought into many countries in the 17<sup>th</sup> to 19<sup>th</sup> centuries as a language of colonial power and made the language of administration, spoken by social elite, but not used by majority of the population. It served moreover as an international lingua franca amongst the elites of many countries.

#### **2. Early Old English (C. 450-C.850)**

The English language developed after the Anglo- Saxon invasion.C.449 AD, when



the Romans left Britain. Latin was still an important written language because of the church and many Latin words were introduced into Old English during this period and language developed a new form: the first English literary texts appeared.

### **3. Later Old English(C.850-1100)**

This was a time of Scandinavian invasion and language change. In the north of England, dialects of English were extensively influenced by Scandinavian languages. In the south, King Alfred, concerned about educational standards, arranged for many Latin texts to be translated into English.

### **4. Middle English (C.1100-1450)**

The Norman Conquest (1066) and rule brought about many linguistic changes. French, now the official language in England, affected English vocabulary, spelling and grammar was also radically transformed. Middle English lost many inflections and used word order. Educated people probably needed to be trilingual in French, Latin and English. It was a flourishing period for English literature. Writer Geoffrey Chaucer's writings began to look like modern English.

### **5. Early Modern English (C.1450-1750)**

This period spans the Renaissance, the Elizabethan era and Shakespeare. The role of the church and Latin declined. In England, institutions of science, such as Royal Society, were established and, by the end of the 17<sup>th</sup> century, theoreticians like Isaac Newton started writing their discoveries in English. Britain grew commercially and acquired overseas colonies. English was taken to Americas and India. With the rise of printing English

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acquired a stable typographic identity. Teaching English as a foreign language began in the 16<sup>th</sup> century, first in Holland and France.

## **6. Modern English (C.1750-1950)**

English had become a 'national' language. Many attempts were made to 'standardize and fix' the language with dictionaries and grammars. The industrial revolution triggered off a global restructuring of work which made English the international language of advertizing and consumerism. The telegraph was patented in 1837, establishing English as a major language of wire services. As Britain consolidated imperial power, English-medium education was introduced in many parts of the world. The first international series of English language-teaching texts was published from Britain in 1938 and the world's first TV commercial was broad cast in the US in 1941. English emerged as the most popular working language for transnational institutions.

## **7. Late Modern English (C.1950)**

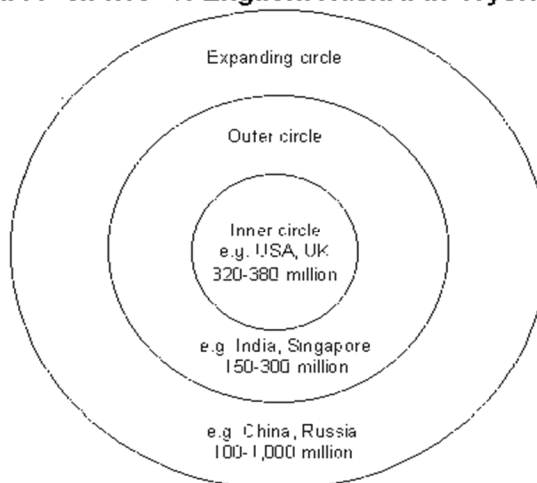
With Britain's retreat from the empire, ELT has become a major private-sector industry. In the aftermath of World War II, the US became a global economic and cultural presence, making American English the dominant world variety. The first geostationary satellites were launched (Early Bird 1965) and the Internet was invented (US 1970s). A world market in audio-visual products was created and soap operas such as *Dallas* rounded the globe. Worldwide English language TV channels (CNN International launched 1989). Meanwhile English has

acquired new electronic forms, as the fragment of textual interaction.

## Who speaks English?

“David Crystal”, says that ‘Those who speak English alongside other languages will outnumber first-language speakers and, increasingly, will decide the global future of the language’.

### The three ‘circles’ of English: Kachru in Crystal 1997



## Three types of English speakers

First-Language (L1) Speakers (375 million)

Second-language (L2) Speakers (375 million)

English as a foreign language (EFL) Speakers (750 million)

First-language (L1) Speakers (375 million) are those for whom English is the only language. They are called native speakers and live in countries in which dominant culture is based on English. Using a tripartite division, we can find English

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spoken as a first language in over 30 territories. Crystal (1997) calculates that world-wide there are little over 377 million speakers of English as a first language including creoles.

Second-language (L2) Speakers (375 million) have English as second or additional language, placing English in a repertoire of languages where each is used in different contexts. In the 19<sup>th</sup> century, one-thirds of the world's population refers to English as 'the language of administration'. It is interesting to compare this figure with Crystal's present-day estimate (1997) that the aggregated population of all countries in which English has any special status represents around one-third of the world's population.

English as a foreign language (EFL) Speakers (750 million) is the third group of English speakers and are in growing number. The number of people learning English has in recent years risen rapidly. Like L2, the EFL category spans a wide range of competence, from barely functional in basic communication to near native fluency.

Dividing English speakers into three groups is a time honored approach to language use and these three groups have become widely known (after Kachru, 1985) as the 'inner circle, the 'outer circle' and the 'expanding circle'. In many parts of the world, the use of English for intranational communication is greatly increasing and can be regarded as in transition from EFL to L2 status. A slight increase in the proportion of population speaking English would significantly increase the global total of second language speakers.





## Language hierarchies:

A large number of native speakers is probably a pre-requisite for a language of wider communication, for these speakers create a range of cultural resources and opportunities for engaging in interactions which require knowledge of the language.

But a full understanding of the role of English in a world where the majority of its speakers are not first-language speakers requires an understanding of how English relates to the other languages. The ideal bilingual speaker is someone who is monolingual in two languages at once. Many of the world's bilingual or multilingual speakers interact with each other in their languages for different purposes: English is not used simply as a 'default' language because it is the only language shared with another speaker; it is often used because it is regarded as the appropriate language in a particular communicative context.

India is a complex multilingual area where nearly 200 languages exist with differing status and if we were to place these languages in a pyramid structure. At the pyramid base are languages used within the family, the first languages learned by children. Higher up the pyramid are the languages which are found in more formal and public domains. To the highest level are the languages of wider and international communication and few language varieties occupy this position.

A survey in 1995 by the European Bureau of Lesser Used Languages reported that 42% of EU citizens could communicate in English, 31% in German and 29% in French (cited in Crystal,



1997).surveys of European satellite TV audiences confirm the widespread understanding of English – over 70% of viewers claim they can follow the news in English and over 40% could do so in French or German.

### **The spread of English:**

There have been two main historical mechanisms for the spread of English. First was the colonial expansion of Britain, providing a diasporic base for the language- which is probably a key factor in the adoption of a language as a lingua franca. Secondly, in the 20<sup>th</sup> century the role of US has been more important than that of Britain and has helped ensure that the language is not only at the forefront of scientific and technical knowledge, but also leads consumer culture.

### **The foremost factors behind the spread of English**

‘It has all happened so quickly’ – says ‘David Crystal’ in “English as a global Language”

### **The rise of the US**

The position of English might have declined with the British Empire like the languages such as Portugal and the Netherlands, if not for the rise of the US in the 20<sup>th</sup> century as a world super power. The Economist (1995) suggests:

Had Hitler won World War-II and had the USA been reduced to a confederation of banana republics, we would probably today use German as a universal vehicular Language and Japanese electronics firms would advertise their products in Hong Kong airport duty- free shops in German. (Eco.1995, p.331)



The US is today the world's third most populous country with around 260 million inhabitants, accounting for a greater proportion of total native English speakers. According to engco forecasting model, only Chinese has more first- language users. Hindi, Spanish and Arabic are close behind English, but how secure their place will be in the 21<sup>st</sup> century is a matter of speculation. For the spread of English, the aftermath of World War II was decisive.

## **Major international domains of English**

### **As a working language of International organizations and conferences**

Crystal (1997) estimates that 85% of international organizations now use English as one of their working languages, 49% use French and fewer than 10% use Arabic, Spanish or German. The International Association for Applied Linguistics, for example, lists French as a working language, but English is used almost exclusively in its publications and meetings. In Europe, the hegemony of English- even on paper – is surprisingly high. Crystal (1997) estimates 99% of European organizations listed in a recent yearbook of international associations cite English as a working language, as opposed to 63% French and 40% German.

French is still the only real rival to English as a working language of world institutions, although the world position of French has been in undoubted rapid decline since World War II. Its use in international firms is disappearing entirely. It is the only alternative against the hegemony of English as a delegate



from Ireland once addressed the League of Nations many years ago, explaining his use of French, 'I can't speak my own language, and I'll be damned if I'll speak English'(cited in Large, 1985,p. 195).

### **As a language of International banking, economic affairs and trade**

With major American involvement, again after World War II, key financial institutions have been established in the 20<sup>th</sup> century. The International Monetary fund (IMF) and world bank were established after the 'Bretton Woods' conference in 1944. Through the Marshall plan, the US became closely involved in the post-war economic reconstruction of Europe, Japan and other parts of Asia. The Korean and later the Vietnamese continued the process of spreading American influence. The 'Bretton Woods' since then played a leading role in regulating international economic relations and in introducing free-market regimes in countries. As more countries rendered open to global flows of finance, goods, knowledge and culture, so the influence of English has spread.

An incoming company typically establishes joint ventures requiring legal documents written in English which creates demand for specialist English language training for lawyers – the case in China. Establishing joint ventures require staff trained in English. English qualifications may become an entry necessity and value access to jobs. A newly established company involves in international trade. This will again create a need for back-office workers with skills in English.



There seems to be developing a new, global English-speaking market in the knowledge-intensive industries. English speaking countries are able to join this global business and those countries in which English is a first or second language, have a clear economic advantage.

### **As a language of scientific publishing**

English is now the international currency of science and technology. The rebirth of British science in 17<sup>th</sup> century put English language science publications such as the *Philosophical Transactions* at forefront of the world scientific community. The growing role of US then ensured that English became, once again, the global language of experiment and discovery.

Journals in many countries have shifted from their national language to English. Gibbs (1995) describes how the Mexican medical journal *Archivos de Investigacion Medica* shifted to English: first publishing abstracts in English, then providing translations of all articles and finally hiring an American editor, accepting journals only in English and changing its name to *Archives of Medical Research*. A study in the early 1980s showed nearly two-thirds of publications of French scientists were in English and many disciplines have been more affected by the English language than others.

It is not just in scientific publishing but in book publication as a whole that English rules supreme. Unesco figures for book production show Britain outstripping any other country in the world for the number of titles published each year. However, the statistics show the enormous intellectual property



being produced in the English language in an era is becoming increasingly valuable.

### **As a language of Audio-visual cultural products**

Until the 1990s, the BBC World Service was one of the few broadcasting institutions with worldwide reach. Its coverage today spans Europe, the Americas, Asia and the Pacific, Africa, the former USSR and South-west Asia. The BBC World Service share is, however, a small part of a massive industry and many national media, including British television interests, are now active on global scale. In 1994, for example, just under a quarter of Disney's \$ 10.1 revenue billions came from outside the US. Recently the company merged with Capital Cities/ABC whose interests include 80% of the cable channel ESPN.

Fears that satellites TV will help bring about a globally uniform audio-visual culture based on US English may prove unfounded. Star TV, based in Hong Kong and owned by News Corp, was one of the first global operators. Launched in 1991 it used a satellite that covered 38 nations with 2.7 billion audiences from China, Japan, India, Malaysia and Israel. Initially it was aimed at the top 5% of the audience – well educated, wealthy, professional, and often English speaking (Freundenburg, 1991, cited in Chan, 1994).

CNN International also started its programmes in English first. Perhaps the most remarkable story in this connection is that of MTV – often regarded as a vehicle for submerging the World's teenagers with US English music culture.



From a sample of viewers, it emerged that throughout Europe, 70.2% felt able to understand English, followed by 43.8% in French and 40.2% in German (EMS Survey, *Cable and satellite Europe*, January 1997). One researcher investigating the extent to which Swedish children watched and understood English-language programming speculated:

In one hundred years' time, will we speak Swedish?... Or will we, few as we are, have become engulfed by the 'English empire' and keep Swedish in the family chest, a quaint relic displayed on festive occasions.

### **As a language of international tourism**

Tourism is one well-documented form of people flow which has had a significant impact on the use of English. Tourism is of increasing importance to the world economy by 10%, employing 10% of the world's labour in travel and tourism activities. These figures are set to rise and by 2006, 100 million new jobs are created in the industry. Tourism has a ripple effect and more destinations are being sought – such as china, South Korea and Indonesia- causing governments to invest in the infrastructure which supports tourist traffic.

International travel has a globalizing effect. It brings people from different language backgrounds together, promoting the need to learn a language in common. We can assume that international traffic within a single region will encourage the use of a regional language, whereas traffic between two or more world regions may encourage one of the 'world languages', of which English is the most important.



## **As a language of tertiary education**

India needs to make use of this world-wide spoken language in order to prove its international power. This can merely be based on the efficiency of tertiary education and consequently, English became the medium of instruction in the universities. English-medium education is accused of undermining attempts to improve educational provision and encouraging educational mediocrity among aspirant, non-elite group. The Hooke model also forecasts a rapid rise in off-campus training in the coming decade by distance education and the growth of English medium education in many parts of the world – effectively opening these markets to distance providers in native speaking countries.

The 1991 census results show that while 29.4% of the population spoke English, only 2.2% in the usual language; 88.7% spoke Cantonese and another 10.3% spoke other Chinese dialects. Despite this, English became the official medium of instruction in Hong Kong schools, meaning most of the population had to study from a young age through a second or foreign language. It is widely believed in Hong Kong that this situation helped the development of an elite group.

English is currently the most widely studied foreign language in the European Union. A recent study of foreign-language learning in 25 countries shows English to be the most popular modern language studied worldwide. In the Russian Federation for example, 60% of secondary school students take English, 25% German and 15% French.





In the 21<sup>st</sup> century the service sector of all economies is expected to grow rapidly. Demand is likely to grow in the tertiary sector and particularly in adult education. The Hooke model forecasts that the international demand for specialist courses of English as a second language (ESL) will multiply sixfold by 2025

**As a language of international safety (e.g. 'airspeak', 'seaspeak')**

Telecommunications technology is surprisingly old. By the 1870s, the world was linked by the electric telegraph, along whose wires the English language flowed. The Victorian network was almost entirely owned and operated by British companies and London was the relay centre for most of the world's long-distance cables.

In 1997 Britain became the first country to open up its entire international phone traffic; nearly 50 companies applied for licenses. The result is expected to be enormous and London is expected to become 'the switching centre for the world's telephone services' (Mc Rae, 1996)

Over the last few decades there has been a significant shift towards direct, point-to-point communications. In the early days of telegraph, a communication needed to pass through many hands, but now it is possible for an individual to contact another directly, across oceans and continents. This development is seen in both the telephone and the internet.

Teleworking – the ability to work away from a central office using telecommunications- has been hailed for decades as a major shift in working practices. The change shows that an



increasing number of people work atleast part of the week at home. Jack Niles, the American who invented the term, anticipates the number will grow to 200 million by 2016.

The more business takes place over the international phone lines, the more the common Language of business will dominate. And of course English is an open standard- anyone can use it.

### **As a relay language in interpretation and translation**

Most advanced software tools such as parsing tools, abstracting and automatic translation. are based in English, although other major languages-such as Chinese- have recently become the focus of much research by the US software industry. In the 1970s most linguists were convinced of the impossibility of a 'typewriter you could talk into' and only 20 years later, practical voice-transcription software is used on desktop PCs. A similar skepticism is now directed at automatic translation, but this overlooks the fact that machine translation already plays a significant role in commercial and institutional life. And it is English, sometimes in special form, which has emerged as a lingua franca for machines. The current state-of-the-art is one in which machines routinely help human translators, allowing increased productivity, accuracy and standardization. But this close working relationship between humans and machines is beginning to alter the language and the ways in which texts are organized.

Simplified forms of English have been constructed by many global engineering companies, such as Caterpillar and



Boeing, which are claimed to make maintenance manuals more comprehensible to overseas engineers. The use of 'controlled English' is also intended to make automatic translation easier. The growing use of English as a 'relay language', to permit translation from any language to any other via English, will produce new forms of language, with the semantic and syntactic structures of English.

### **As a language of technology transfer**

Technology transfer is closely associated with English, largely because most transfer is sourced by a TNC who either is English speaking or who uses English for external trade. Technology transfer is not restricted to the enterprise itself, but may extend to associated infrastructures expansion such as airports, railways and telecommunications. In central china, engineers in local steel factories learn English so they can install and maintain plant bought from German and Italy. The predominance of English in technology transfer reflects the role of TNCs more than the fact that much leading edge technology derives from the US. However, technology transfer to developing economies tends not to be at a leading edge: keeping new technology in Europe, North America and Japan helps the Big Three to maintain a competitive edge despite high costs of labour.

English today has been shaped by the effect of the industrial revolution. As English became the world's language of discovery and as rapid advances were made in materials science, engineering, manufacturing and communications, new communicative functions were required of the language. Thus the 'information age' began in the 19<sup>th</sup> century, establishing many of

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the styles and conventions we take for granted today. The impact of the technology on everyday life is determined by the speed of institutional and social change.

Joseph Schumpeter suggested in 1930s that technological innovation affected the economy in a series of 'long waves' about 50 years apart. If we update his ideas to cover the period 1780 to 2080, this provides six 'long waves' each associated with a transformative technology. Based on this, we can see that major changes in culture and language during the next few decades are those connected with computers and communications. English and computers have seemed, for decades, to go together and English will, no doubt, continue to be spread via software products and digitized intellectual property.

Knox (1995) suggests three cities are in the first rank of a global, urban hierarchy: London, New York, and Tokyo. It is in these cities that key decisions which drive globalization are taken and are likely to remain key world 'hubs' through which ideas, finance and people flow.

### **As a language of Internet communication**

The internet is regarded by many as the flagship of global English. A frequently quoted statistic is that English is the medium for 80% of the information stored in the world's computers. It is certainly true that growth of computer use – and of the Internet in particular – has been spectacular in the last few years.

Using the same infrastructure as the telephone, the internet carries English language services into nearly every



country and, with growing private subscriptions, into people's homes. Data traffic, it is claimed, has now overtaken voice traffic in the developed world.

English is deeply established among scientists as the international lingua franca and, from this beginning, English appears to have extended its domain of use to become the preferred lingua franca for the many new kinds of user who have come online in the 1990s:

The electronic media that bind the world together are essentially carriers of language. To work efficiently, they need a more common standard ..... The English language is now the operating standard for global communication.

Interne -like networks within organizations, often 'fire walled' against the outside world are expected to grow more rapidly and these intranets will create employment-based communities. This may encourage English and it is clear from research by linguists that new genres and forms of English are arising on the internet. The system is not simply encouraging the use of English, but transforming it.

The English Company (UK) Ltd has devised a corpus linguistic method for estimating the proportion of languages on the World Wide Web which suggests the English language content is now around 8 billion words. At present 90% of the internet hosts are based in English-speaking countries. It is not surprising, therefore, that the majority of the websites are based in English and that those users based in other countries find that they have to communicate with others in cyberspace community



through the medium of English. Internet newsgroups seemed to indicate a preference for using English. English will remain pre-eminent for some time, but it will eventually become one language amongst many. English is said to have accounted for 80% of computer based communication by 2020s.

### **English in business**

International trade is often a complex, cross-border business and such multilateral trade brings with it greater reliance on lingua francas. In Europe there is growing evidence that English has become the major business lingua franca. A study conducted in 1988 for the Danish Council of Trade and Industry reported that English is used by the Danish companies in over 80% of international business communications. A more recent investigation in small and medium-sized business in peripheral areas of Europe (Hagen, 1993) found that although English is probably the most used language of business across Europe, German is used in particular areas and especially for informal communication. However German companies generally use English for trade outside the European Union. Recommendations made by German Chambers of Commerce to members on which language should be used for trade suggests that English is recommended as the sole language for 64 countries, French in 25 countries and Spanish in 17. The overall pattern seems to be that trade driven by the Big Three encourages the use of English globally.



## **English for advertising global brands**

Today a greater number of goods and products have become the objects of style and consumer culture. It does seem that English has become a primary language of design, advertising and marketing. Companies like Nike and Levis have created a global market for their goods.

Software has become more important than hardware in computer industry; film and programme production more important than TV and satellites in the entertainment industry. It is a shift not simply to services, but specifically towards knowledge intensive studies, where English plays a major role.

English plays a complex function in global culture. Historically, English plays a key role in the branding of products. Virgin is one example and United Colours of Benetton is typical of transnational companies.

## **English in the 21st century**

The position of English in the world today is thus the joint outcome of Britain's colonial expansion and the more recent activity of the US. There is no reason to believe that any other language will appear within the next 50 years to replace English as the global lingua franca. The position of English has arisen from a particular history which no other languages can, in the changed world of 21<sup>st</sup> century. Recent American studies of the cultural consequences of globalization suggest:

By 2000, English was the unchallenged lingua franca. This language monopoly bestowed upon the United States an incalculable but subtle power: the power to transform ideas,



and therefore lives, and therefore societies, and therefore the world.

Any substantial shift in the role of US in the world is likely to have an impact on the use and attractiveness of English language. The question remains whether English has become so entrenched in the world that a decline in the influence of the US would harm it. Or will other languages come to rival English as in the case of Latin which was abandoned as an international lingua franca 300 years ago. However the future of English remains a question mark.

### **The future of English**

The future of British English in the world will depend in part on continued, careful management of its 'brand image'. Some useful groundwork has already been undertaken. The support of 'British Studies' courses in overseas universities, for example, has helped shift the focus from cultural heritage to a more balanced understanding of Britain's place in the modern world.

Smith (2002) carried out an experiment using speakers of 9 'national varieties of English – China, India, Indonesia, Japan, Papua New Guinea, Philippines, Taiwan, the UK and US – in order to discover whether 'the spread of English is creating greater problems across cultures'. He concluded that there was no evidence of breakdown in functioning of English as an international lingua franca.





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## **SOCIAL CHALLENGES TO EDUCATION IN KASHMIR**

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### **Objectives and Methodology:**

Even if there are countless policies and programmes to combat the menace of Non enrollment and high dropout rates in Kashmir. Gallons of ink have been drawn to highlight the escapes and loopholes in programmes and policies and their implementation, but there is little discussion about the need for society's attitude towards education. Besides programmes and schemes, a change in society's attitude is needed too, to ensure that these issues do not arise any further. This study is a modest attempt in this direction, as the problem provides fertile ground for sociological investigation. The researcher is interested in understanding the nature of obstacles which hinder educational interventions for marginalized communities so, in order to catch the first hand information and to draw the relevant inferences field study has been conducted during the time span of March 2012 to March 2013. The present study essentially applied qualitative techniques in order to gain a deeper understanding of the nature of obstacles that hinder children's education. The study involved collecting information from parents, community members, teachers, children and others stakeholders like Village Education Committees and Panchayat Raj Members. 20 (Elementary/ Primary/Middle) schools in block khansahib of



district Budgam have been surveyed on case to case basis to draw the relevant inferences. The schools investigated for the present study are located in the villages of; Ringzabal, Kharian, Zagoo, Chill, Brass, Mujipathri, Basant-weder, Dragadh, Katchwari, Balpora, Narigund, Shanipora, Khahipora, Trajikhah, and Checkmarg. All the schools surveyed are operating under centrally sponsored programme of Sarva Shiksha Abhiyan. In order to gain a deeper understanding of the problem in question in this qualitative research methodology, case study design has been employed, Supplemented with interviews (structured/open ended questions with school going and out of school children), focus group discussions with Teachers, Parents, Community and Village Education Committee members, classroom and infrastructural observations and school profiling. A total of 20 classroom observations were made as a part of the study one in each school, preferably giving equal representation to all grades. 24 out of school children, 30 school going children, 10 Village education committees; Fifteen Panchayat Raj Members, 20 teachers and 25 community members were interviewed during the course of present study.

### **Introduction:**

Education in its broadest general sense refers to the (means) forms of learning in which knowledge, skills, and habits of a group of people are transferred from one generation to the next through teaching, training, research, or simply through auto didacticism [1]. Generally, it occurs through any experience that

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<sup>1</sup> Dewey, John. (1916/1944). Democracy and Education. The Free Press. pp. 1-4. ISBN 0-684-83631-9.

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has a formative effect on the way one thinks, feels, or acts. In contemporary societies "Education is the social institution through which society provides its members with important knowledge, including basic facts, job skills, and cultural norms and values [<sup>2</sup>]" . So, in its narrow technical sense, education is the formal process by which society deliberately transmits its accumulated knowledge, skills, customs and values from one generation to another, e.g., instruction in schools.

Elementary education is a public good- a pure public good and a merit good of high order, which produces huge externalities also widely known as benefits--- economic, social, political and cultural--- that accrue to the whole society. Secondly education is a basic need, a minimum need in need in our development planning framework, like food, clothing and shelter. Third, elementary education is a constitutional mandate for the state to provide it to all free and compulsory, in the age group of 6-14. Elementary education is also considered now, a fundamental right, a justifiable right, provision of which cannot be avoided on any account. It is in this context that Universal primary education assumes that all children irrespective of the caste, creed or location would complete primary education of comparable quality within the stipulated time frame. Therefore, all children should have equal opportunities to participate and succeed in primary education.

The state of Jammu and Kashmir has made significant progress in increasing enrolment and school completion over the past decades. The growth in enrolment has taken place in the

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<sup>2</sup> Macionis John. J. (2010). Sociology. Pearson's edition. New Delhi.pp.517.



backdrop of introduction of various centrally sponsored educational interventions. Examples of such schemes include Sarva Shiksha Abhiyan (SSA), the Non-formal Education Program (1979-90), Operation Blackboard for small rural schools (1986), Total Literacy Campaigns (1988), District Primary School Education Program (1994-2002) and more recently the mid-day meal schemes. But in spite of the introduction of all these schemes, it is now 2013 and we are still not near to achieving universal primary education – and even we do not appear to be closing in on it. There are many social issues that plague our educational system and are responsible for non enrollment and higher dropout rates. This study is a modest attempt in this direction, as the problem provides fertile ground for sociological investigation. Some of the social challenges which confront our educational system in Kashmir and act as a barrier directly or indirectly in the process of enrollment and school completion, explored during this study include;

- I. **Familial support:** Education and family has a direct relationship, from the attitudes a family holds towards formal learning and how much or how little a family supports educational goals. During the course of elementary schooling the range of familial support on day to day basis include help children with studies (Homework), provision of stationery, uniform and other essential materials, arrangement of tuition (usually during winters), and at times provision of pocket money for incidental expenses. However during the course of study it was observed that in the families where adults (especially



parents) are illiterate, or are occupied and more interested in other household chores like agriculture and cattle rearing this support is not forthcoming. As 10 from the sample of 24 out of school children reported that disturbance due to domestic work, sibling care (mostly in case of girls), disinterest of parents towards their studies are important constraints which hindered their studies.

- II. Poverty:** All the 24 out of school children identified and interviewed during the course of this study were reported from B.P.L families, which clearly define close and intimate relationship between education and the economic strata a student belongs to. Growing up in poor homes has also adversely affected the emotional health of the school going children and this also lowers his/her performance at school.
- III. Ethnic and Gender Issues:** Children belonging to certain ethnic groups such as Gujjars are expected to be slower learners as compared to others. There are certain stereotypes that have been attached to them and, children belonging to this category suffer from low self-esteem. Teachers in one of the Tribal villages Ringzabal claim that these children are themselves more interested in cattle grazing than education. Another social issue in education is differentiation on the basis of sex. Girls have lesser opportunities, compared to boys for studying. It was observed during this study that drop out girls were involved in care of younger siblings, and facilitate family in agriculture and other day to day activities.



- IV. Cultural Restrictions:** The Culture and psyche of our tribal population has historically been averse to blessing the risky venture, so is the case with response to education. During the course of interview with one of the Tribal family in village Ringzabal, they held that it demands much time to be in education, so it is better to engage their children in traditional occupation of cattle grazing and pasteurization to meet their day to day needs.
- V. Population explosion:** The disaster of galloping population in these tribal hamlets is an impediment to meet the expenses of education for all. On an average in the village Ringzabal a couple bears four to eight Children. This in itself demands girl child to stay at home for the care of younger siblings.
- VI. Conflict and Education:** Social unrest compounded by armed conflict of last two decades, have taken a heavy toll of life and public property besides throwing normal life out of gear in Kashmir. Education could not escape from this tragedy as most of the educational institutions in these rural areas of the valley were destroyed and loss of schooling hours immensely affected the learning outcomes. Our education has also been affected due to frequent shutdowns, curfews and armed encounters. It is because of the implications of the conflict that the State of J&K lags far behind in social sector i.e. education, public health, sanitation, and social welfare. Another impediment in the education of the children intimately linked with the conflict is the loss of breadwinner (especially parent) in
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the family, which compels the victim (child) to abandon studies in order to support his/her family. As present study identified 10 orphan children (whose father died during the period of conflict) engaged in traditional carpet industry to meet their familial day to day requirements.

**VII. Uneven Development:** Topography of the area comes in the way of developing adequate infrastructure, as the sample villages investigated for the present study are situated on the bank of Nallah Sukhnag, in hilly areas, adjacent to the forests of famous tourist spot "DOODH PATHRI". The only bridge connecting this range of about twenty villages with outside social environment couldn't be developed until Year 2005. And to sustain their education it is unavoidable for the community to cross this Nallah and attend the only nearest high school at Zonal level Hardpanzoo. That is why, in one of these villages (Ringzabal), the research identified only three children matriculate so far.

**VIII. Student passivity:** Parents of school children during the course of this research alleged that blame for student passivity can be placed on television and mobile phone, which now consumes much of young children's time for watching serials and playing games. VEC members and teachers held parents (Especially Illiterate parents) who are not involved enough with their children responsible for the same. But, apart from this, schools too play a part since some educational system itself generates student passivity (Coleman, Hoofer, & Kilgore, 1981). As in these





remote rural quarters school buildings are falling apart, furnishings are dilapidated; playgrounds are not so maintained. In short Infrastructure of schooling which children experience in these areas is near to the ground, which in itself generates student passivity.

- IX. Migration:** Few communities like inhabitants of the village "Ringzabal, Kharian, Zagoo, Basantweder, Mujipathri and Kechwari" who involve their children in the seasonal grazing of cattle at higher altitudes report that it becomes difficult for them to attend the schools during summer; Even if there is the provision of mobile schools, they note that mobile schools do not function regularly, and cannot be depended upon.
- X. Teacher's Training:** It is fact that no system of education can rise above the level of its teachers. Good teachers are invaluable assets for nation building and this fact has been recognized and highlighted in the National Policy of Education (1986). This emphatically calls for a drastic and urgent revision in the existing policies and practices regarding recruitment, training and retention of teachers based on well tried out programme of innovation, experimentation and research. Therefore, teacher education is in urgent need of reorganization so as to ensure the highest quality and standard. The system of teacher preparation or training in J&K has come under sharp criticism at the hand of both experts and public at large. Critics have termed our system of teacher preparation as "obsolete" "bookish" "ill concerned",



impractical", "ill planned", "uninspiring" and "mushroom growth". As during our study we came across the issue of teachers handling more than one class at a time (because of shortage of teachers and teacher absenteeism), and they are least prepared to handle a multi grade system. Usually one class is neglected and is constantly made to wait for the teacher to attend to them. There is no preparation on the teacher's part to keep all the children meaningfully engaged. Classrooms observed were mostly didactic and one way, based on the textbooks and on a 'chalk and talk' approach to teaching. The virtual absence of teaching-learning material other than the textbooks also indicates that there is little happening beyond textbooks and blackboard based teaching. It is because of being short of training that these teacher's lack pedagogical innovation, teaching and evaluation methodology, and professional development. Teacher's prior preparation to the class in terms of lesson plan and teaching aids etc does not exist in most of the classrooms observed. Even if there is the provision for training of teachers and they continuously attend these courses provided by cluster, zone or district level resource persons but, it is divorced from actual realities of the school. Methodologies that focus on learning by rote instead of developing appreciation and understanding in children have become the norm. So, these institutions, therefore, are need to be revamped to produce professionally trained teachers, fully equipped with both high academic standards, pedagogical practical skill, ethical and moral values.

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**XI. School Infrastructure:** The notion of obstacles in children's education is not limited to what prevents children from coming to school, but it must be extended to what happens inside the school as well, because obstacles crop up at different sites during the process of education. To provide a flavor of what the schools look like, we have collected data on a few aspects related to infrastructure and basic facilities from the 20 (Elementary/ Primary/Middle) government schools.

PARAMETERS	Government Schools Investigated	
Facilities Availing	Yes	No
Separate rooms for each grade	02	18
Compound wall facility	01	19
Drinking water facility for all	03	17
Adequate well maintained Playground	01	19
Availability of sports material	20	-----
Separate usable toilet for boys and girls	08	12
Toilet for teachers	01	19
Functioning Library, used by children	-----	20
Mid Day Meals provided	20	-----
Computer education	-----	20
Availability of Computer and Science Lab	-----	20



School monitoring by VEC's, ZRC, ZEO or any other authority	10	10
PTA'S and their meetings held	07	13
Teacher student ratio according to norms	17	03
Seating arrangement	Jute matting in all	-----

From the above table it appears that there is a long distance to cover with respect to infrastructure and basic facilities in these government schools, as even the most basic facilities are not in place. The worrying figures are those related to drinking water, playground and toilet facilities. 90% of the surveyed government schools did not have separate classrooms for each grade, though single grade teaching is prescribed under SSA. Despite the quantitative expansion of schools and increasing enrollment of children these aspects have not got the attention they deserve. Further libraries do not seem to be a part of culture in any of the government schools we visited. The issue of toilets is a complex one, girl children while during interviews reported that the absence of toilet facility in schools often result in their visits to home at least twice daily, which in turn disrupt their studies. Even if all the government schools were having sports materials, but sports and physical education still lie on the periphery of the schooling experience, because of unavailability of playgrounds. Parent teacher meetings does not seem to be a norm in most of the schools surveyed, while teachers held parents responsible for



this lackadaisical attitude, but parents claim that these activities are often scheduled at times that interfere with their day to day work schedules or other obligations. Mid day meal is the scheme which definitely boost the attention of children towards school, But the management of the mid day meal solely rests on the teacher, thus a non-teaching activity leads to disruption in teaching atmosphere.

During the classroom observations it was recognized that Classrooms did not come across as lively spaces filled with discussions and debates. Teachers seldom prepare lesson plan and use teaching aids which would have made the subject matter easily understandable. Teachers rarely check to see if they are being understood, Further very few teachers explain or elaborate a concept/idea, and only a small number take care to summarize what has been transacted in their class. Consequently, a teacher driven monologue was observed in most of the classrooms surveyed, which in turn in Indian context is totally contradictory to NCF 2005, wherein—no learner is to be viewed as a mere receiver of knowledge, beliefs, information etc; and effective teaching is not a one way delivery system<sup>[3]</sup>.

In this regard we have put on board some of the views, perspectives and attitudes of Children; Community members and other key Stakeholders of Education to gain their insight for the same;

a) **Children's Perspective:** 24 out of school children (12 cases of Dropouts and 12 cases of Never enrolled/admitted) were

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<sup>3</sup> NATIONAL CURRICULUM FRAMEWORK. (2005). Document prepared by NCERT. Source: <http://www.ncert.org>.

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interviewed during the course of this study to gain an understanding of the impediments which they feel came in their course of education. Lack of parental interest, coupled with poverty emerges as a key factor that impedes the concerned child's participation in school. From our study we establish that the number of girls (19 out of these 24 cases interviewed) who thus get pushed out from school, or are completely blocked from entering it, is much larger than the number of boys, thus indicating that they are at a much greater disadvantage. As essentially patriarchal society like ours confers less importance on girl's education. From the socio-cultural perspective, demand for girl's education is considerably low. A family considers girls education as a financial liability. Early marriage, religious (e.g.: As the most common factor for high incidence of non-enrolment, drop outs and low achievement among Muslims girls stated are poverty, lack of women teachers, absence of separate schools for girls, observance of *Purdah*, opposition to secular education for girls, early marriage and conservative attitudes)[<sup>4</sup>] and cultural structures, conservative ideology of traditional submissive domestic role of women, superstitions, male preferences as future assets, infrastructural failure, derecognizing women as potential developers of society are key factors hindering girls education. Added to this the presence of exclusively male teachers, distance to schools (especially in rural areas), unhealthy sanitation, acute

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<sup>4</sup> Nayar Usha. (2007). "An Analytical Study of Education of Muslim Women and Girls in India". A study commissioned by the Ministry of Women and Child Development. Department of Women and Child Development (DWCD). New Delhi.

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poverty, and absence of mid day meals are diagnosed as potential factors of disparity between Male-female literacy. The other impediments recognized were death of a family member (especially breadwinner), health status of a close family member (especially Mother), care for younger siblings and cattle rearing. Most of these girl children in district Budgam also stated poverty as key reason for disrupting their participation in schooling so as to support their family.

- b) **Community Perspective:** The biggest challenge or difficulty reported by parents when it comes to sending their children to school is lack of financial resources. Where it concerns financial resources, notebooks, bags, stationery, uniforms, shoes do not come easily for parents who cannot afford them. Bad weather also has an impact on school accessibility because children have to walk over difficult and hilly terrain as in villages' like 'Kharian' and 'Chill' they have to cross stream en route. Reported from the discussion with other stakeholders like Village Education Committees and Panchayat Raj Members children tend to stay back at home for household work, cattle grazing, working in the fields, sibling care, and so on. Other common obstacles and impediments reported were lack of parental interest, geographical isolation of the area, Corporal punishment, teacher absentees, and schools being short of proper infrastructure, financial resources, teaching standards and teaching facilities.

**Conclusion:** Non enrollment and high dropout rates in Kashmir are propelled by social issues in education. The government has to make certain policies and see to it that they are implemented

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properly, to tackle these issues. Anti-poverty programmes and Better Child protection schemes should be set up to handle all forms of abuse against children. Besides programmes and schemes, a change in society's attitude is needed too, to ensure that these issues do not arise any further.

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## **W. B. YEATS' POETICS ON FORM AND CONTENT IN LITERATURE**

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A quintessential feature of philosophy and thought emerging from the same basic concept of the aesthetic experience is the paradoxical relationship between form and content. For ages, critics have been deliberating upon the issue of the significance of form and content in art, especially literature. These two elements emerged as distinct entities in the Greek philosophy. The Greek Atomists considered form to be integral to the spatial organization of the structure of a body. For Plato, form was a vital component along with matter to provide sensory perception of things, while to Aristotle it was the detrimental component of the material things or the corporeal substance which constituted matter or content. For him, the form of an object, far from being an abstract ideal, existed within the structure of the object. He further asserted that our perception of varied experiences and our concept of beauty are perpetuated by our observations of real instances in life around us. This led him to differentiate between logos (the lexical content of speech) and lexis (the style of delivering that speech or the form).

Conventionally, form and content have been considered distinct and distinguishable from one another. The former is identified by the visual and auditory properties of language, also



called Syntactical Properties, such as configuration, order and relation of sign vehicles. The content, on the other hand, signifies the designated meaning of the sign vehicles or the substance. This distinction between form and content has been taken up by Northrop Fry in selections from *The Secular Scripture*. Fry contends that form is the “shaping spirit, the power of ordering” or “the constructive power of the mind,” (139) while content is the nature that is other than the imaginative power of the mind. Thus for him, form is conventional and formulaic, while content which may introduce reality or verisimilitude provides the matter that alters rigid formality. Later, Kant regarded form to be the organizing and synthesizing principle of matter or content. However, Hegel’s arguments on these two elements as embodied in his 1832 work *Lectures on Aesthetics English Trans., Aesthetics: Lectures on Fine Art* is the archetypal of all arguments. He had conceptualized the relationship between form and content as an interaction of dialectical opposites which nevertheless stimulated mutual transformation. He had also stressed on the necessity of distinguishing form from content and yet the impossibility of separating the two into distinct entities.

Thus in the context of literature, form can be said to render any work of art its peculiar individuality, and the matter contained within the form comprises its content. However, both these entities are intrinsically interwoven, and cannot be separated without distorting their essential individuality. Consequently, any alteration in form, or the sensuous embodiment of content would distort the “aesthetic reality.” Hence as a corollary, it may be concluded that the artistic worth and superiority of a work is measured by the degree of the

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consistency and appropriateness of its form and the content. In art, content and form exist as two fundamental elements of a work and are distinctly recognized by the intellectual character of content as opposed to the material character of form. Thus in art, the medium or technique applied in art, just like the style of writing in literature, constitutes form.

Traditionally, in literature and art, form is perceived as either external or internal. Broadly speaking, form refers to the physical and visible characteristics inherent in a work of art. While the external form depends directly on the medium such as - auditory, verbal, plastic or postural, the internal form may include characterization, themes in epics, poetry and drama, the modes of melody and rhythm or the type of nature depicted in landscape or poetry. The content or the matter contained within the frameworks of a given form can be further divided into the conceptual or the ideological content and may include those elements of a work of art that express the knowledge and an intellectual and emotional evaluation of the essence of the theme and the artist's attitude or intent behind the work of art. Hence in simple words, the content can be defined as "what the work is about" and form as "how it is expressed." Since the artist communicates his thoughts and feelings through the content of a work of art, it varies from one work to another, and lends individuality and the determining essence to the work. Associated with these two elements is the concept of context - the idea behind the composition, the intention and the purpose of the artist which contextualizes a work and makes it meaningful.



However, inarguably it is the assimilation of both form and content which lends a work its characteristic distinctiveness. Helen Vendler defines these two in the following phrase: “form is content - as - arranged; content is form - as - deployed” (Vendler 14). In literary criticism, form primarily denotes a literary genre such as the short-story form, the dramatic form, the lyric form, the patterns in rhythm and music, the ballad form, the stanza form, the chorus etc. As per the definition of form in poetics, it can simply be defined as the manner in which a poem is composed as distinct from what it is about. J. A. Cuddon defines form in *A Dictionary of Literary Terms and Literary Theory* as:

When we speak of the form of a literary work we refer to its shape and structure and to the manner in which it is made - as opposed to its substance or what it is about. Form and Substance are inseparable but they may be analysed and assessed separately. (Cuddon 327)

In William Butler Yeats' view, art and by extension literature, is not as it is traditionally interpreted, primarily representation of an expression or intellectual forms. Literature, to him, was a way of thinking and constructing reality linguistically, and critical faculty far more than just a means for greater “form, method, precision, proportions, arrangement” (Arnold 381). In *A Vision*, he has elucidated his objective of literary criticism:

The close of the last century was full of a strange desire to get out of form, to get some kind of disembodied beauty, and now it seems to me the contrary impulse has come. I feel about me and in me an impulse to create form, to carry the realization of beauty as far as possible (L 402).



A prolific writer, Yeats typifies his beliefs, often in a veiled and vague manner, provoking his detractors to accuse him of being inconsistent and obscure. Having spent his life in search of a reality of beautiful patterns and deepest meanings, his diverse critical ideas are found embedded in the text of his poetry, plays and prose too. Consequently, his theory of criticism, particularly poetry cannot be assessed in isolation for it does not exist as a concrete and distinctive entity. Besides, since Yeats exemplifies his ideology, his views on form and content, too, cannot be isolated from his literary output. Given that Yeats believed them to be interrelated and integrated, his critiques of the works of his contemporaries, his predecessors and his own craft was based on the assessment of both the aspects concurrently. Regarding form, Yeats opined that it would not be:

possible for anybody to deny the importance of form, in all its kinds, for although you can expound an opinion, or describe a thing, when your words are not quite well chosen, you cannot give a body to something that moves beyond the senses, unless your words are as subtle, as complex, as full of mysterious life, as the body of a flower, or of a woman. The form of sincere poetry, unlike the form of the "popular poetry", may indeed be sometimes obscure, or ungrammatical as in some of the best of the *Songs of Innocence and Experience*, but it must have all this whether it be a little song made out of the dreams of one poet and of a hundred generations whose hands were never weary of the sword. (*E&I* 163-164)

This impulse to create form hints at a writer's heightened technical consciousness and a desire to execute greater control in terms of diction, language and cadence. Yeats, too, was keen to initiate experimentation with innovatory forms to embody the

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content in a befitting form yet quite early in his literary career, he had concluded that beauty had to be “realized, embodied or made tangible” and that “a man can embody truth but he cannot know it” (L 922). Within his own literary matrix, Yeats embodied his wide-ranging content into varied forms, most prominent being the verse form, the dramatic form, the genre of novel, prose, essays, autobiography and letters. His critical credo also manifested in detail the motley of elements which constitute the core of the external forms. These include language and diction, Rhythm and music, images and symbols, metaphors, and masks, to name a few.

Of the innumerable structural and literary devices which according to Yeats forged the bond between form and content was the use of appropriate language-simple, lucid and concrete so as to express the thoughts as if confiding to an intimate friend. Yeats perceived literature as a tapestry where in form and content are interlaced into the thought and texture of the work. Consequently, clubbing his adherence to the radical Romantic tradition with the traditions of the Decadents, Yeats built an ideology to explore the possibilities of amalgamating the past and the present through simplicity and directness of speech into an appropriate form. He supported both - the significance of the heroic and nationalist content which the Decadents propagated, and the technique as propounded by the Rhymers. Yeats firmly believed that a true artist must suitably reconcile form to its content and vice versa. For him, a greater challenge was that of making modern language and forms, suitable instruments to elucidate the themes, whether in prose, lyric or play.



Symbolism was regarded integral to the study of form by Yeats. As such, his concept of symbolism was inextricably blended with his poetics of form. His symbolic aesthetics regarded symbolism as holding the "greatest of all powers" for it could say "things which could not be said so perfectly in any other way..." (*E&I* 146). In fact, for Yeats: "It gave dumb things voice and bodiless things bodies" (147). To him, the source of much of symbolism was the great memory. Yeats used this concept of Anima Mundi to expound his theory of transposition of the physical and the supernatural to the ideal. Yeats also examined some of the symbols of Burne, Blake, Nash and Shakespeare to assess how the symbols lend "the story its beauty, as a sword-blade may flicker with the light of burning towers" (*E&I* 156). Thus for Yeats, Symbols embodied the abstract in visual form. Yeats' thoughts on Symbolism were best depicted by his essay *The Symbolism of Poetry* which reiterated his belief that what is beyond the senses must be "given body" or in other words a form. This view found favour with the new school of Psychology for they perceived in Yeats' declaration an anticipation of the study of archetypal patterns.

For Yeats, form manifested itself also as the rhythm in a work of art. Insights into the aural dimensions of his critical theory and his own works show sound as an integral component of form. To him, the aural patterns in poetry were analogous to that of visual patterns in Art. He believes it to be indispensable to the structure of a work as it substantially enhances the appeal of the work. In "The Symbolism of Poetry," he avers:

The purpose of rhythm, it has always seemed to me, is to prolong the moment of contemplation, the moment when we are both asleep and awake, which is the one moment of creation, by hushing us with an alluring monotony, while

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it holds us waking by variety, to keep us in that state of perhaps real trance, in which the mind liberated from the pressure of the will is unfolded in symbols. (*E&I* 159)

It was in the 1890s that Yeats began to make concrete efforts to refine his poetic belief on rhythm, for he comprehended that the purpose of rhythm was "to prolong the moment of contemplation." He further equated rhythm to the ticking of watch made softer and more various (*E&I* 159) which lent a definiteness to the form. He realized that serious poetry must reject "those energetic rhythms, as of a man running and incorporate "those wavering, meditative, organic rhythms, which are the embodiment of the imagination. (*E&I* 163). Yeats revitalized rhythm and metered poetry giving it a new voice. He used the device of poetic forms to their utmost potential rendering it refreshingly new yet colloquial in tenor. His fascination for all things traditional led him to choose traditional rhythms over the modern free verse. "Vers Libre," according to him was an ideal medium or verse form for those who lacked clarity of thought and were prone to "impassioned utterance." He did not adopt this form as Ezra Pound or Eliot did. In fact, he insisted on traditional meter on the plea that

Because I need a passionate syntax for passionate subject-matter I compel myself to accept those traditional metres that have developed with the language. Ezra Pound, Turner, Lawrence wrote admirable free verse, I could not.... if I wrote of personal love and sorrow in free verse, or in any rhythm that left it unchanged amid all its accident, I would be full of self contempt because of my egotism and indiscretion, and foresee the boredom of my reader. I must choose a traditional stanza, even what I alter, must seem traditional (*E&I* 521-3).

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Since Yeats also wished long poems to be popular form of expression of poetic thought and themes, he lamented: "An absorption in fragmentary sensuous beauty or detachable ideas had deprived us of the power to mould vast material into a single image" (Pierce III 360). Ironically his own attempt at writing long poems such as "Upon a Dying Lady" or "Broken dreams" was marred by fragmentation and abstraction which he professed to detest. This fragmentation in form clearly indicated his emulation of the modernists despite his avowal to the contrary.

Ostensibly, Yeats was ambivalent to the problem of form and content in poetry. His attitude towards these two essential components of literature wavered from a clear preference to content in the initial years of his literary career, and to form in his late poetry. However, he never advocated subordination of content to accommodate form as the dominant element. In this context, Albright feels that "the young Yeats thought that modern art has triumphed by a steady emptying of its contents" (Albright, *Korea* 25). Yeats did not approve of the over emphasis on form given by the modernists, nor did he agree with "Wordsworth, Tennyson, Browning[who] had all erred by over inclusion- by trying to absorb into their work science, politics, philosophy, ethics, until their poems became hopelessly heavy, distended (*UP* II 39)".

Experimentation with forms was vital to Yeats' literary craft. Having begun his literary career with *Mosada*, *The Island of Statues* and *The Seeker* in the dramatic form, Yeats turned to epic writing but an unsuccessful stint at the epic form made him turn to drama which was flourishing in the period of transition.

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His conviction that “the subject of all action is passion” led him to conclude that passion could not, therefore, be evoked in abstraction. In fact, he was sure that the dramatic form provided the dramatist an escape from abstraction by focusing on the central conflict or the dramatic action. His preference for dramatic form can be traced back to his early writings as well. His earlier poems such as “The Isles of Statues” and “The Wandering of Oisín” were ornate epic poems. In poems like “The Cloak, The Boat and the Shoes,” he used the dialogue form, based on a simple pattern of traditional folk song which employs a sting of question and answers to elicit the content. He transformed his prose drama *The Hour Glass* (1903) into verse drama in 1903. His concern in the beginning was primarily with the heroic. *The Countess Cathleen* and *The Hour Glass* followed the morality model while the early plays from Cuchulain Cycle were based on the Greek form of drama. Subsequently, he turned to the Noh plays of Japan and also presented Dance plays. In the middle period of his literary career, the dance form became emblematic of pure form which subsumed the intellectual content. In fact, his foray into the Noh plays and the Dance plays can be read as emblematic of his poetic belief that literature should be more suggestive than explicative in both form and content. In fact, he hints to the poets that half said things are more attractive for they add to the beauty of the work by leaving ample scope for exploration by the intellect, and also opens up avenues for multiple interpretations of a given situation, image or symbol.

Veiling his own works in a charade of mystery, mysticism and evocative ambience, Yeats explored a variety of themes and forms in his own literary oeuvre. Concomitantly, he deplored the

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contemporary drama of murder and sentiment, for merely "photographing life." He favoured one-act form of plays which he found ideal to present the dramatic structure. Nevertheless, the most preferred form of dramatic art for Yeats remained the verse drama. Yeats also realized that even Shelley and Mallarme had struggled to evolve perfect poetic drama. As the successors of Shakespeare, they had strived to break free from the Shakespearean tradition to express mystical experiences. Shelley too had begun the search for an ideal poetic form, although he did not succeed. Drawing a parallel between Yeats and Shelley, Harold Bloom says, "Yeats found in Noh what the Romantics had sought for themselves but failed to find - a form for drama that suited their intricate sensibilities (*Yeats* 293). The drama Yeats proposed relied upon an idealization of common speech and melodious lyric elaboration of personal emotions. "It was a form far more stringent than either epic or lyric, compelling one to work within a definite framework of time and to satisfy an immediate and rather mixed audience instead of some imaginary body of responsive readers that might grow up in a hypothetical future" (Sena 69). The dramatic art form was adopted by Yeats to generate greater intensity, focus on passionate action and a medium to highlight the concurrent social and political scenario of the evolving European society.

In his critical matrix, Yeats expounds his theory of the form and content of novel as well. Experimenting with the genre of novel, he also contemplated on how this art form essentially differed from the poetic form. He observed, "Unlike a poem, a novel requires so much minute observation of the surface of life that a novelist who cares for the illusion of reality will keep to

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familiar things" (*Ex* 160). His presumption that "popular novels were the lowest form of art" (*Ex* 5), propelled him to be deliberately artistic and pragmatic in this endeavour. At this juncture, regarding objectivity to be inartistic and ineffective, he favoured personal subjective expressions and subject matters to be most appropriate for this form. Consequently, he derided George Moore's *Esther Waters* (1894) on the plea that the novel's protagonist was a "personification" and hence an abstraction.

With 'Unity of Being' as his critical credo, Yeats remained preoccupied with the issue of the essential indivisibility of a poem or a play. Believing form to be a unified and concrete entity, Yeats deplored dividing a work into its varied components to analyse it structurally as the school of Structuralism suggested. In fact, Yeats felt that the onus of writing in a form which could not be further divided without distorting the meaning lay on the poet. He exemplified his ideology through his works. Consequently, his own poems are best appreciated as organic wholes wherein nothing is superficial which can be removed without disfiguring the import of the poem. For him, "divisions in the arts are almost all in the first instance technical" (*E&I* 289). Nevertheless, he proposed "setting things above one another, Epic and Drama above Lyric... and not merely side by side" (*E&I* 334). Emphasizing poetry as the supreme form of knowledge, Yeats believed it to be "alone permanent." His views on the nature and purpose of poetry perceived it as a perennial form.

Unlike the Modernists, Yeats did not favour free verse. He recommended the use of and also incorporated within his lyric form sterner tense, taunt and austere language and "more direct



approach" to themes and content by abandoning the conventional Romantic poetic diction. The content of his early lyrics, inspired primarily by Pre-Raphaelite paintings, revolved around mystical or esoteric subjects and the theme of love encased in lyric form. He used narrative form in his long work "The Wandering of Oisín" which won him recognition on the literary scene. However, with time and experience, his critical thought and ideology also evolved. Talking about his passion for Narrative poetry, he wrote to Katharine Tynan that his ideas of a poem had greatly changed since he had written *The Island of Statues*, for that was a region, while Oisín was a series of incidents. Nevertheless, he wished to embody the highest possible thought in the simplest possible form. He conceded that since in narrative verse "the attention was on the fact of the story, not the form; the form must be presented as something, we all accept- the fundamental sing - song. I do not know a single example of good narrative where the rhyme scheme is varied (L 82).

For Yeats, the choice of the form also depended on the content or the subject matter in hand. For instance, for representing Irish culture authentically Yeats, under Lady Gregory's tutelage, decided to use "a simplified form of West Irish dialect with its "Tudor Vocabulary" and "Gaelic Syntax." However, soon realizing the limited scope and literary possibilities of using such a form and language, he decided to move on to other forms. Initially, the dawning of the realization that poetry could have no other vocation than expressing beauty in different forms brought about a change in Yeats' view about the content which could be encased in the varied forms of literature. Besides Yeats revived and revitalized the dwindling

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verse form. In fact, he conceptualized the rejuvenation of the verse form much before Eliot and Pound began writing in this vein.

For Yeats, the poet's business was to 'sing' out his heart's desires and sentiments. The song, on the other hand, with its intrinsic implication of celebration of an emotion, an event or an imaginary situation had connotations linking form to content. Yeats used the metaphor of the song and the singer to underscore the vital relationship between many of his works, his views on the purpose and objective of a poet and his stature in society. He criticised Ibsen's *A Doll House* for incorporating "dialogue so close to modern speech that music and style were impossible" (*E&I* 167). On the other hand, he extolled Coleridge and Rossetti for making what Arnold has called that "morbid effort," that search for "perfection of thought and feeling, and to unite this to perfection of form" (*Au* 188). Thus Yeats fervently endorsed that literature which could reflect emotional honesty and an immediacy which could link the personal with the emotional. In his own literary output, a similitude of this notion can be discerned, for Yeats reproduced the actual experience, spiced up with his imagination and vision, present universal emotions too encased in the directness of his language. Concomitantly, the search for eternity and intransience amidst the chaotic and inconsistent chimera of this world, marked with mental and spiritual decadence, found ample mention especially in Yeats' poetry. While T. S. Eliot mulled over the sombre auguries of an impoverished 'wasteland, marred by materialism, violence and ennui in relationships, Yeats contemplated over the fate of the

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world in the face of "great gloom" lurching menacingly over the modern times.

A perusal of the content of Yeats' poems and plays clearly indicate the subservience of form to the content. Unlike the moderns who deliberately disintegrated the form to experiment with literary devices in order to make literature more complex and difficult, Yeats continued to be traditional in form. Vitriolic in his attack on the modern literature, Yeats asserted that he hated the literature of point of view. Rebuffing the Modernists' attempt at disassociating with the rich past, nature and personal emotions, he posited that the content of literature must "return to the ways of our fathers, a casting out of the description of nature for the sake of nature, of the moral law for the sake of moral law, a casting out of all anecdotes and of that brooding over scientific opinion that so often extinguished the central flame in Tennyson...in others..." (*E&I* 163). He was certain that with "this change of substance, this return to imagination, would come a change of style" and consequently the content (163).

The variety of themes which are embodied most profoundly in his works while elucidating Yeats' multifariousness also hint at the variety of subjects open for an artist for investigation and exploration. It also underscores the intrinsic inter-relatedness and hence the indivisibility of form and content into two separate entities without distorting the fibre of the work. Yeats' assumptions and contentions regarding form and content mesmerize us with their deliberate uncertainty for he does not explicitly expound his theory on these. To construct the frame works of his critical ideology, his collective works have to

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be analysed to establish his ideology. Trust in the belief that it is our instinct or our intellect that makes the choices, led Yeats to conclude that a writer must be left completely free to follow his own instinct to choose his content although, paradoxically, he himself did not enjoy this freedom. Interestingly, Yeats neither searched for nor conformed to any aesthetic formalism.

Highly motivated by the Pre-Raphaelites and the Romantics initially, Yeats had advocated writing on subject matters which depicted beauty in its myriad manifestations. Artistically inclined towards unrealistic art, he believed that sordid and contemporary content as inappropriate to art. Interestingly though he had begun to promote and vouch for "directness and extreme simplicity" (L 30) in form and content in literature, holding these two to be the aim of literature, his own craft apparently defied this dictum. This realization also brought to his notice the fact that his own early poetry lacked fundamental thinking and had hence become sentimental from lack of thought. Consequently, Yeats conceived of a complex heterogeneous literary doctrine which subscribed to diverse and assorted themes within the fibre of a single poem or play. Although he explored diverse forms and themes to form the content of his literary and critical oeuvre, he did not subscribe to the notion of the sufficiency or appropriateness of any particular literary form or poetic language for a particular content. Moreover, a study of the choice of form and content, especially in his later poetry, underlines Yeats' commitment and allegiance to Romanticism. Adhering to his Romantic moorings, the content of his prose and poetry avidly opposed realism. Hence instead of contemporary realistic issues, he preferred romanticizing life and

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situations through imagination and symbolism. The modernist's insistence on art as a representation of reality was countered by his assertion that art creates and not merely reflects reality. Hence he saw imagination as an essential tool for a writer.

However, Yeats' critical theory incorporated the idea of the resolution of the polarities between the instinctive self and the external world. Consequently, he approved of the apocalyptic poetry of Eliot and explored the same in his poetry, although from a different perspective. As against Eliot's vision of the contemporary world as corrupted by man's repudiation of God, moral and emotional barrenness and an all-pervasive decadence of civilization, leading to internal and spiritual devastation, Yeats held the extraneous forces responsible for man's victimization. Nevertheless, he found fault with the content of the modern poetry. He essentially disliked the certainty and definiteness of the modern objective poetry, because it deprived the content of the subtle suggestiveness and imaginative connotations which the unconsciously directed symbols lend to literature. Yeats also believed that the purpose of literature and all other art forms is not to give explanations or to become didactic. To him, its motive is to suggest and not to pronounce judgments.

Concomitantly, he felt that the modernist approach to literature which thrived on subverting the prevailing conventions by breaking up the narrative into fragments or disrupting the syntax through the use of such modes as Stream of Consciousness were detrimental to the form and content of literature. He castigated the modernists for their mutation of form and preference for only the objective content in literature, rather than

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the personal which the Romantics depicted. For this very reason, he was critical of Pound's craft for being "constantly interrupted, broken, and twisted into nothing by its direct opposite, nervous obsession, nightmarish stammering confusion" (*OBMV* xxiv).

In fact, Yeats found in Pound a similitude of "...that lack of form and consequent obscurity which is the main defect of Auden, Day Lewis and their School" (xxiv). Conversely, he thought that the content of most of the modernists such as Pound, Eliot and Auden was replete with the trivialities, the flux, and dramatic fragmentation. Their rejection of the Romantic concept of poetry as lyrical, simple and beautiful, and their constant experimentation with verse forms to make them suitable to depict political turmoil and humanistic themes or content perplexed Yeats. He even censured the Modernists for their lack of personal experience as the content of their works. Consequently, unlike T. S. Eliot, Yeats did not believe in separating the man who suffers from the man who creates. The element of experience led to his preference for autobiographical poetry which is abundantly found in his own poetic proclivity.

Indubitably, within Yeats' critical method, the content or the subject matter was equally as important as the form and he had no patience for those writers who ignored the former to give significance to the latter. He realized that form existed in duality both-as an independent entity, and as related to content which is not formless. The interpenetration and indissolubility of form and content cannot be refuted. Thus if form is a matter of words; content is a matter of concepts signified by words. And if diction, syntax, versification and imagery are the four elements of form,

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content entails what is said- the plot, character, setting, theme, argument or thought. Consequently, he was critical of those who overlooked content to give prominence to form.

Moreover, Yeats' conviction that literature and especially poetry should be an expression of the spiritual life of an individual established his allegiance to the Romantics rather than the Moderns. In fact, his continued dedication to the laws of imagination and art for spiritual growth began to find favour with many modernists as well. Yeats could never approve of the modernist penchant for logic over emotions, manipulation of form and predominance of form over content. Since modernism was marked with the realization that language was incapable of fully communicating meaning, the modernists recommended the investigation of form and down played the importance of content which Yeats disapproved of. In fact it can be said that Yeats exhibits protean sensibility which spans over the transition from Victorian Romanticism into modernism.

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## ON LATTICES AND INFINITE MEET DISTRIBUTIVITY

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It was Goguen [1] who first realized that the closed unit interval  $[0, 1]$  of real numbers is not sufficient to have the truth values of general fuzzy statements. The conventional (or ordinary or crisp) statements have truth values in the two - element set  $\{0, 1\}$ , where 0 and 1 stand for 'False' and 'True' respectively, while certain fuzzy statements have truth values in the unit interval  $[0, 1]$ , which is as infinite bounded totally ordered set under the usual ordering of real numbers. However Goguen [1] pointed out that  $[0, 1]$  is insufficient to have the truth values of general fuzzy statements.

For example, let us consider the statement 'India is a good country'. This is a fuzzy statement, since 'being good' is fuzzy. The truth value of this statement is not a real number in the interval  $[0, 1]$ . Being good may have several components; good in educational standards, good in literacy literacy among the citizens, good in political awareness, good in medical felicities, good in public transport system etc. The truth value corresponding to each component may be a real number in  $[0, 1]$ . If  $n$  is the number of such components under consideration, then the truth value of the statement 'India is a good country' is an  $n$  - tuple of real numbers in  $[0, 1]$ , which is an element in  $[0, 1]^n$ . If  $C$



is the collection of all countries on this earth and  $G$  is the collection of good countries, then  $G$  is not a subset of  $C$ , but it is a fuzzy subset of  $C$ , since 'being good' is fuzzy. That is,  $G$  can be considered as a function of  $C$  into a set like  $[0,1]^n$ , for some positive integer  $n$ .

It is well known that the interval  $[0, 1]$  of real numbers is a totally ordered set under the usual ordering of real numbers; while  $[0,1]^n$ , when  $n > 1$ , is not totally ordered under the coordinatewise ordering. However,  $[0,1]^n$  satisfies certain rich lattice theoretic properties; namely, it is a complete lattice satisfying the infinite meet distributivity. For this reason, U. M. Swamy and D.V. Raju [5 and 6] initiated that complete lattices satisfying the infinite meet distributivity are the most suitable candidates to have the truth values of general fuzzy statements. In this paper, we make a thorough discussion on the above type of lattices.

## 1. DISTRIBUTIVITY IN LATTICES

A partially ordered set (poset) is a pair  $(P, \leq)$ , where  $P$  is a nonempty set and  $\leq$  is a partial order (that is, reflexive, transitive and antisymmetric binary relation) on  $P$ . A poset  $(L, \leq)$  is said to be a lattice if every two - element subset (and hence any nonempty finite subset) of  $L$  has greatest lower bound ( $glb$ ) and least upper bound ( $lub$ ) in  $L$ . If  $(L, \leq)$  is a lattice and  $a$  and  $b \in L$ , then the  $glb$  and  $lub$  of  $\{a, b\}$  are denoted by  $a \wedge b$  and  $a \vee b$  respectively and  $\wedge$  and  $\vee$  become commutative, associative and idempotent binary operations on  $L$  satisfying the absorption laws  $a \wedge (a \vee b) = a = a \vee (a \wedge b)$ . Equivalently, a lattice can be viewed as a triple  $(L, \wedge, \vee)$  where  $L$  is a nonempty set and  $\wedge$  and  $\vee$  are binary



operations on  $L$  which are commutative, associative and idempotent and satisfy the absorption laws; and, in this case, the partial order on  $L$  is defined by

$$a \leq b \Leftrightarrow a = a \wedge b \Leftrightarrow a \vee b = b.$$

In general, for any subset  $\times$  of a poset  $(L, \leq)$ , if the greatest lower bound (least upper bound) of  $\times$  exists in  $L$ , then it is denoted by  $glb \times$  or  $\inf \times$  or  $\bigwedge_{x \in \times} x$  (respectively,  $lub \times$  or  $\sup \times$  or  $\bigvee_{x \in \times} x$ ). The binary operations  $\wedge$  and  $\vee$  are called meet and join respectively.

**Definition 1.1** Let  $(L, \wedge, \vee)$  be a lattice.

$\wedge$  is said to be distributive over  $\vee$  if  $a \wedge (b \vee c) = (a \wedge b) \vee (a \wedge c)$

for all  $a, b$  and  $c \in L$ .

$\wedge$  is said to distribute arbitrary joins if  $a \wedge (lub \times) = lub \{a \wedge x : x \in \times\}$  for any  $a \in L$  and  $\emptyset \neq \times \subseteq L$ , in the sense that, if  $lub \times$  exists in  $L$ , then  $lub \{a \wedge x : x \in \times\}$  exists in  $L$  and both sides of the above equation are equal. In this case,  $L$  is said to satisfy the infinite meet distributivity.

$\vee$  is said to be distributive over  $\wedge$  if  $a \vee (b \wedge c) = (a \vee b) \wedge (a \vee c)$  for all  $a, b$  and  $c \in L$ .

$\vee$  is said to distribute arbitrary meets if  $a \vee (glb \times) = glb \{a \vee x : x \in \times\}$  for all  $a \in L$  and  $\emptyset \neq \times \subseteq L$ , in the sense that, when  $glb \times$  exists in  $L$ , the  $glb \{a \vee x : x \in \times\}$  also exists in  $L$  and both sides of the above equation are equal. In this case,  $L$  is said to satisfy the infinite join distributivity

It is well known that, in any lattice  $(L, \wedge, \vee)$ ,  $\wedge$  is distributive over  $\vee$  if and only if  $\vee$  is distributive over  $\wedge$ ; and in this case,  $L$  is



said to be a distributive lattice. Also, either of (2) and (4) above implies that  $L$  is a distributive lattice. However (2) and (4) given above are not equivalent, as shown in the following examples.

## Examples 1.2

Any totally ordered set satisfies both the infinite meet and join distributivities

Let  $N$  be the set of all nonnegative integers and, for any  $a$  and  $b$  in  $N$ , let us define  $a/b$  when  $a$  divides  $b$ . Then  $(N, /)$  is a lattice in which  $a \wedge b = \gcd\{a, b\}$  and  $a \vee b = \text{lcm}\{a, b\}$ . This is a distributive lattice satisfying the infinite join distributivity. However, this does not satisfy the infinite meet distributivity; for, let  $\times$  be the set of all odd primes. Then  $2 \wedge x = 1$  for all  $x \in \times$  and  $2 \wedge (\text{lub } \times) = 2 \wedge 0 = 2 \neq \text{lub}\{2 \wedge x : x \in \times\}$ .

The dual of the lattice  $(N, /)$  given in (2) satisfies the infinite meet distributivity and does not satisfy the infinite join distributivity.

Let  $O(X)$  be the set of all open subsets of a topological space  $\times$ . Then  $(O(\times), \subseteq)$  is a lattice in which, for any  $[A_i]_{i \in I}$ ,  $\text{lub } \{A_i\}_{i \in I} = \bigcup_{i \in I} A_i$  and  $\text{glb } \{A_i\}_{i \in I} = \text{the interior of } \bigcap_{i \in I} A_i$ . This is a distributive lattice satisfying the infinite meet distributivity. However, for a general topological space  $\times$ ,  $O(\times)$  may not satisfy the infinite join distributivity.

## HEYTING ALGEBRAS

The following is a property of lattices which is stronger than the distributivity and the infinite meet distributivity.

**Definition 2.1.** A lattice  $(L, \wedge, \vee)$  is said to be a Heyting algebra if,





for each pair  $a, b$  of elements, there exists largest element in  $L$ , denoted by  $a \rightarrow b$ , such that  $x \wedge a \leq b$ .  $\rightarrow$  can be treated as a binary operation on  $L$  satisfying  $x \wedge a \leq b \Leftrightarrow x \leq a \rightarrow b$  for any  $a, b$  and  $x$  in  $L$ .

## Examples 2.2.

Any totally ordered set  $(L, \leq)$  with largest element 1 is a Heyting algebra in which, for any  $a$  and  $b$  in  $L$ ,

$$a \wedge b = \min\{a, b\}, a \vee b = \max\{a, b\} \text{ and } a \rightarrow b = \begin{cases} 1 & \text{if } a \leq b \\ b & \text{if } b < a \end{cases}$$

Let  $(O(\times), \cap, \cup)$  be the lattice of all open subsets of a topological space  $\times$ . This is a Heyting algebra in which, for any  $A$  and  $B$  in  $O(X)$ ,

$$A \rightarrow B = \text{the interior of } (X - A) \cup B$$

**Theorem 2.3** The infinite meet distributivity holds in any Heyting algebra.

**Proof:** Let  $(L, \wedge, \vee)$  be a Heyting algebra,  $a \in L$  and  $\times$  a nonempty subset of  $L$  such that  $\text{lub } \times$  exists in  $L$ . Put  $y = a \wedge (\text{lub } \times)$ . Then  $a \wedge x \leq y$  and for all  $x \in \times$ . If  $z$  is any other upper bound of  $\{a \wedge x : x \in \times\}$ , then  $a \wedge x \leq z$  and hence  $x \leq a \rightarrow z$  for all  $x \in \times$ , so that  $\text{lub } \times \leq a \rightarrow z$  and this implies that  $a \wedge (\text{lub } \times) \leq z$ . Thus  $a \wedge (\text{lub } \times) = \text{lub } \{a \wedge x : x \in \times\}$ . Therefore  $L$  satisfies the infinite meet distributivity.

The converse of the above result is not true in general. For, consider the example given below.

**Example 2.4.** Consider the division ordering  $/$  on the set  $Z^+$  of positive integers. Then  $Z^+$  is a sublattice of the lattice  $(N, /)$



given in 1.2 (2) and therefore  $(Z^+, /)$  is a distributive lattice without the largest element. This implies that  $(Z^+, /)$  is not a Heyting algebra. However, it satisfies the infinite meet distributivity; for, let  $a \in Z^+$  and  $\times \subseteq Z^+$  such that  $\text{lub } \times$  exists in  $Z^+$ . Then  $\text{lub } \times$  is a positive integer and every element of  $\times$  is a divisor of  $\text{lub } \times$ . This implies that  $\times$  must be a finite set and we have.  $a \wedge (\text{lub } \times) = \text{lub } \{a \wedge x : x \in \times\}$ .

## FRAMES

Recall that a partially ordered set  $(L, \leq)$  is called a complete lattice if every subset of  $L$  has  $\text{glb}$  and  $\text{lub}$  in  $L$ . A complete lattice is necessarily bounded. Note that the lattice  $(Z^+, /)$  is not bounded above. In the following theorem, we prove that the converse of 2.3 is true for complete lattices.

**Theorem 3.1.** The following are equivalent to each other for any complete lattice  $(L, \leq)$ .

$(L, \leq)$  is a Heyting algebra

$(L, \leq)$  satisfies the infinite meet distributivity.

For any  $a$  and  $b$  in  $L$ , the set  $\langle a, b \rangle = \{x \in L : a \wedge x \leq b\}$  is closed under arbitrary supremums

**Proof:** (1)  $\Rightarrow$  (2) is proved in 2.3. For (2)  $\Rightarrow$  (3), let  $a$  and  $b$  be arbitrary elements in  $L$  and  $\times \subseteq \langle a, b \rangle$ . Then  $a \wedge x \leq b$  for all  $x \in \times$  and  $a \wedge (\text{lub } \times) = \text{lub } \{a \wedge x : x \in \times\} \leq b$  and hence  $\text{lub } \times \in \langle a, b \rangle$ . Thus  $\langle a, b \rangle$  is closed under arbitrary supremums. (3)  $\Rightarrow$  (1) is clear, since  $\text{lub } \langle a, b \rangle \in \langle a, b \rangle$  and hence  $a \rightarrow b = \text{lub } \langle a, b \rangle$ .

**Definition 3.2.** A Complete Heyting Algebra is called a frame.



That is, by the above theorem, a complete lattice is a frame if and only if it satisfies the infinite meet distributivity.

### Examples 3.3

Any complete totally ordered set is a frame. In particular, the interval

$[0, 1]$  of real numbers is a frame.

The lattice of open subsets of a topological space is a frame

Any complete Boolean algebra is a frame, since it is a Heyting algebra in which  $a \rightarrow b = a' \vee b$ , where  $a'$  is the complement of  $a$ .

Any finite distributive lattice is a frame.

Frames are the most suitable candidates to have the truth values of general Fuzzy statements. For any class  $\{L_i\}_{i \in I}$  of lattices, let  $\prod_{i \in I} L_i$  be the product lattice in which the partial order, lattice operations, *lubs* and *glbs* are simply coordinatewise. The following are straight forward verifications.

**Theorem 3.4.** If  $\{L_i\}_{i \in I}$  is a nonempty class of frames, then the product  $\prod_{i \in I} L_i$  is also a frame.

**Corollary 3.5.** If  $(L, \leq)$  is a frame and  $\times$  is a nonempty set, then  $L^\times$  is also a frame under the pointwise ordering.

**Corollary 3.6.** For any positive integer  $n$ ,  $[0, 1]^n$  is a frame.

### ALGEBRAIC LATTICES

An element  $c$  of a complete lattice  $(L, \leq)$  is called compact if, for any  $\times \subseteq L$ ,  $c \leq \text{lub } \times \Rightarrow c \leq \text{lub } F$  for some finite  $F \subseteq \times$ . If  $(L, \leq)$  is a complete lattice in which every element is the *lub* of a set of compact elements in  $L$ , then  $(L, \leq)$  is called an algebraic lattice.



Equivalently, for any  $a \in L$ ,  $a = \text{lub } C(a)$ , where  $C(a) = \{c \in L : c \text{ is compact, } c \leq a\}$ .

Note that, for any elements  $a$  and  $b$  of an algebraic lattice,  $a \leq b$  if and only if  $C(a) \subseteq C(b)$ .

**Theorem 4.1.** Any distributive algebraic lattice is a frame.

**Proof:** Let  $(L, \leq)$  be a distributive algebraic lattice,  $a \in L$  and  $\times \subseteq L$ .

Clearly  $\text{lub } \{a \wedge x : x \in \times\} \leq a \wedge (\text{lub } \times)$ . To prove the other inequality, let  $c$  be a compact element in  $L$  such that  $c \leq a \wedge (\text{lub } \times)$ . Then  $c \leq a$  and  $c \leq \text{lub } \times$ . Since  $c$  is compact, there exists a finite subset  $F$  of  $\times$  such that  $c \leq \text{lub } F$ .

Now,  $c \leq a \wedge (\text{lub } F) = \text{lub } \{a \wedge x : x \in F\} \leq \text{lub } \{a \wedge x : x \in \times\}$

Thus  $a \wedge (\text{lub } \times) \leq \text{lub } \{a \wedge x : x \in \times\}$  and therefore  $(L, \leq)$  satisfies the infinite meet distributivity. Since  $(L, \leq)$  is an algebraic lattice, it is complete also. Thus  $(L, \leq)$  is a frame.

Note that, even though a frame is necessarily a distributive lattice, it may not be algebraic. For, consider the example given below.

**Example 4.2.:-** The interval  $[0, 1]$  of real numbers is a frame and not an algebraic lattice, since 0 is the only compact element in  $[0, 1]$ ; for, if  $0 < a \leq 1$ , then

$a = \text{lub } \{x : 0 \leq x < a \text{ and } a \neq \text{lub } F \text{ for any finite subset } F \text{ of } [0, a)\}$ .

In the context of  $[0, 1]$ , we have an interesting characterization of totally ordered algebraic lattices.



**Definition 4.3:-** Let  $a$  and  $b$  be elements of a partially ordered set  $(L, \leq)$  such that  $a < b$ . If there is no  $x \in L$  such that  $a < x < b$ , then we say that  $a$  is covered by  $b$  and denote this by  $a \rightarrow b$ .

**Theorem 4.4.-** Let  $(L, \leq)$  be a complete totally ordered set. Then  $(L, \leq)$  is an algebraic lattice if and only if, for any  $x < y$  in  $L$ , there exist  $a$  and  $b$  in  $L$  such that  $x \leq a \rightarrow b \leq y$ .

**Proof:** Suppose that  $(L, \leq)$  is an algebraic lattice and  $x, y \in L$  such that  $x < y$ . Then there exists a compact element  $b$  in  $L$  such that  $b \leq y$  and  $b \not\leq x$ . Then  $x < b \leq y$ .

Put  $a = \text{lub}\{z \in L : x \leq z < b\}$ . Then  $x \leq a \leq b \leq y$ . Since  $b$  is compact,  $a \neq b$ . Also, for any  $z \in L$ ,  $a < z < b \Rightarrow x \leq z < b \Rightarrow z \leq a$ , which is a contradiction. Therefore,  $x \leq a \rightarrow b \leq y$ .

Conversely, suppose that the given condition is satisfied. Let  $y \in L$  and  $x = \{c \in L : c \text{ is compact and } c \leq y\}$ . Then  $x \leq y$ . If  $x < y$ , then there exist  $a$  and  $b$  in  $L$  such that  $x \leq a \rightarrow b \leq y$ . Since  $a$  is covered by  $b$  and  $L$  is totally ordered, it follows that  $b$  is compact and hence  $b \leq x$ , which is a contradiction. Therefore  $y = x$ . Thus  $L$  is an algebraic lattice.

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## TAGORE'S DAKGHAR (THE POST OFFICE) AND ITS PLACE IN CULTURAL UNIVERSE

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Rabindranath Tagore has influenced the life and thoughts of both the common people and the intellectuals all over the globe through his works. *Dakghar (The Post Office)* celebrated its 100 years in 2011 and 2011 was the 150<sup>th</sup> year of Tagore's birth. Tagore wrote the play in 1911 and by that time he had already faced a number of deaths in his family – all of them were closely associated with Tagore. His wife Mrinalini Debi had died in 1902. His assistant Sri Satish Chandra Roy died in 1904 and he lost his father Maharshi Debendranath Thakur in 1905. His youngest son Samindranath died in 1907. He had also lost his daughters Madhurilata Debi (Bela) and Renuka Debi (Rani). All these deaths had a terrible impact upon Tagore. Tagore himself had said that one day he had a strange feeling while he was lying on the roof of his house under the stars at Santiniketan. He had a strange experience as if his mind took wings and began to fly. He felt an anguish as if there was a call to go to some unknown place and there was a premonition of death. Tagore has expressed this feeling of restlessness in his *Dakghar*. Tagore had expressed the mystery of death in this short play. The major theme of the play is the urge for the unknown. Rabindranath did not see life and death separately. To him death is the ultimate manifestation of

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life. Tagore believed that the full meaning of life can be grasped in death only. To Tagore, death symbolized the spiritual unity of the soul. So Amal represents Man who has received the call of the unknown. But Amal waits for the letter directly from the King through the Post Office which he can see through his window. That letter would bring Amal the message of emancipation. Rajkabiraj (King's Physician) opens the closed door which symbolizes Death for us but it is the awakening of spiritual freedom for Amal. The flowers of Love given by Sudha are the only companions in his spiritual awakening.

On 4 June 1921, Rabindranath had written to C F Andrews in a letter: "Amal represents the man whose soul has received the call of the open road – he seeks freedom from the comfortable enclosure of habits sanctioned by the prudent and from walks of rigid opinion built for him by the respectable." As the play progresses, Amal's health deteriorates, but his spiritual self transcends his physical health. His gradual deterioration of health brings him closer to the King and his royal messenger. Tagore's insights into Death seem to be deepest with this play. "I have had so many experiences of loved ones who have died that I think I have come to know something about death, something perhaps of its deeper meaning. Every moment that I have spent at the death bed of some dear friend, I have known this, yet it is very difficult to describe how for me that great ocean of truth to which all life returns, can never suffer diminution by death." Rabindranath had very consciously thought of death while writing *Dakghar*. At this time spiritualism was taking the centre stage of Rabindranath's creations. We find similar types of

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thought in his poems namely 'Sindhupare' or 'Jharna tala'. Towards the end of the play we find Amal waiting for the letter from the King. The condition of Amal can be compared with the poet of *Gitanjali*, where Tagore finds the Infinite within the Finite. Amal, who prays to the King so that he might be allowed to deliver the letters like the postman, is none other than the poet himself. Tagore himself had said in his 'Religion of Man': "When I look back upon those days, it seems that unconsciously I followed the path of my Vedic ancestors, and was inspired by the tropical sky with its suggestion of an uttermost Beyond. The wonder of the gathering clouds hanging heavy with the unshed rain of the sudden sweep of storms arousing vehement gestures along the line of coconut trees, the fierce loneliness of the blazing summer moon, the silent sun rise behind the dewy veil of autumn morning kept my mind filled with the intimacy of a pervasive companionship." S.N. Dasgupta, the famous philosopher, explains the mysticism of Tagore: "In his mystic vision Rabindranath deeply feels that God is always approaching us in the various phenomena of nature, in the heat of summer, in the rains of monsoon, in the corn-fields and sun-shine of autumn, through the shivering cold of winter and the rejuvenating touch of spring."

Amal is an orphan village boy of almost ten years. Madhab Dutta has taken the responsibility of Amal and he loves Amal with parental affection. But Amal has fallen ill terribly. The Kabiraj (physician) has prescribed that Amal should stay indoors and that is the only medicine because the sunshine and fresh air is poison to Amal. Madhab Dutta realises that it is very difficult to keep a

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small boy confined within the four walls of the room, but there is no other way out. Amal silently bears the pains and sufferings of his disease, but his pain while taking the medicines is beyond toleration. When Madhab Dutta says to Amal that he will be a learned scholar one day, Amal says that he does not want to be a scholar, rather he will see everything. Almost in a way to fulfil his future dreams, he sits by the window and sees the far away mountains. Don't we notice a similarity with Tagore in his childhood? It may be mentioned that '*Dakghar*' and '*Jiban Smriti*' were published almost at the same time. Sitting by the window, Amal talks to everybody who pass by the window. Amal talks to the curd seller, to the watchman, to the 'Morol' (headman of the village), to Sudha, to the boys, and to everybody. All save the 'Morol' are impressed by the innocence of the child. They are surprised to see in Amal, the unending quest for knowledge, his love for life, his desire to know the unknown, to see the unseen and his urge to see not only the world around him but also the world beyond. Amal can see the newly opened King's Post Office through the window. Though he cannot read, he is fascinated by the thought that some day he will receive a letter from the King. He is delighted to think that he will get the news of the world far away through this post office. Towards the end of the play the Rajkabiraj (Royal Physician) comes and opens all the doors and windows of Amal's room. Amal's death is the death of a young imaginative mind, repressed by the opposing forces of an unimaginative, prosaic, social structure. The Rajkabiraj, who symbolically stands for the messenger of God, actually opens the doors of the world beyond and Amal begins his voyage to the

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unknown world. As his physical strength diminishes, his spiritual strength increases.

*'Bairogyo sadhone mukti, se amar noi  
Asankhyo bandhan majhe mahanandomoy  
Lavibo muktir swad'*

Tagore portrays a sense of liberation, both material and mystical, in his works. His idea of 'mukti' or freedom was immensely influenced by the Upanishads. Tagore believed that true freedom comes not from the pursuit of individualism but in the union of true minds and hearts. Tagore also uses the concept of freedom to decry narrow boundaries governed by greed and ambition. Amal, though confined within the four walls of the house, is not a prisoner in the creative or spiritual sense. His imagination, innocence and spontaneity help him to win the hearts of people from different spheres of life and of all ages. Tagore writes in the 'Foreword' to Dr. S. Radhakrishnan's *The Philosophy of Upanishads*: "When our self is illuminated with the light of love, then the negative aspect of its separateness with others loses its finality, and our relationship with others is no longer that of competition and conflict, but of sympathy and co-operation." Despite its grim subject *Dakghar* has a strangely hopeful quality. Tagore described Amal as someone 'whose soul has received the call of the open road'. He further writes: "The call to go somewhere and the mystery of death is what I expressed in *Dakghar*." Amal is an embodiment of the child heart that has not been defiled by the social or economic class divisions.

*Dakghar* has been staged many times in India. Tagore himself had played the role of 'Thakurda' (grandfather) at Santiniketan. In January 1918, Gandhiji had come to Calcutta (now Kolkata) to

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attend the 33<sup>rd</sup> session of the Indian National Congress. But on 16 January 1918, Gandhiji wrote to S. K. Rudra, the first Indian Principal of St. Stephen's College: "I had a very nice time of it in Calcutta, but not in the Congress pandal. I was enraptured to witness the '*Post Office*' performed by the Poet and his company." The play has been translated, adapted and staged not only in different Indian languages but also in many European languages. W.B.Yeats first translated the play into English in 1913 as *The Post Office* and it was first staged in English in London by an Irish theatre group. From then onwards the play appealed to people across the globe in different languages. In the 'Preface' to the English translation, W.B.Yeats wrote: "The play is very perfectly constructed, and conveys to the right audience an emotion of gentleness and peace." The play was translated into Spanish by Juan Ramon Jimenez and staged in Spain. In Germany, the play was staged 105 times during the Second World War. It was translated into French by Andre Gide, a Nobel Prize winner, and the French translation was read over the national radio of France in 1940, the evening before the Nazis attacked Paris. It was heard by almost the whole of France. This short play shows its impact on the minds of the people in times of tremendous crisis. But perhaps the most interesting and notable of all the performances was the one by the orphans in Poland. It would not be out of place to mention that Tagore had never been to Poland and was not a familiar name in Poland at that time. Henryk Goldszmit (1878 – 1942), a contemporary of Tagore was a Polish doctor and educator of Jewish origin. He was more popularly known as Junusz Korczak and he established an orphanage called Dom Sierot for the hapless Jewish children in

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Warsaw, Poland. He performed wonders with the children of the orphanage with an adaptation of Tagore's *The Post Office*. Korczak himself said that he had chosen Tagore's play because 'eventually we have to accept with serenity the angel of death'. The Nazis created the Warsaw Ghetto in 1940 and moved the orphanage there. Korczak also moved to the ghetto with his children. Korczak could feel the pains of the children. He was apprehensive that the children might face any sort of eventuality including brutal torture and death. He wanted to infuse some strength and courage into the minds of the children. He tried to keep the children engaged in creative works also so that their minds would be diverted to things other than the fear of death. He knew that it was not enough to inculcate the spirit of courage and life into them. Some supernatural power should descend from heaven to save the children and he found Tagore's *The Post Office* to be the superhuman saviour. The death of Amal is in fact his liberation and the beginning of a great voyage to the unknown world. Yeats also speaks about the deliverance sought and won by Amal. Korczak wanted to convey this spirit and attitude to his children. Korczak planned to stage this play with his children as the characters. Korczak actually wanted to help children accept death heroically, to make them aware that death is deliverance. It is through death that the human self unites with the Divine self. Death is not the end of life, it is the means for a new life. Death is the stair to deliverance, Death is the liberation from bondage, an experience of the highest order of sensibility. In the invitation letter Korczak's poet friend Wladyslaw Szlengel added the following note:

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*"It transcends the test – being a mirror of the soul.*

*It transcends emotion – being an experience.*

*It transcends mere acting – being the work of children."*

The play as a whole denotes emancipation, deliverance and spiritual freedom. Life itself is like a post office from where our deeds, thoughts, words and feelings pass out to the outer world. The Rajkabiraj (Royal Physician) represents the messenger of God and the King is God Himself or Eternity. As Amal's condition worsens, he moves closer to the Rajkabiraj and the King.

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## REVISITING NORMATIVITY OF HUMAN SEXUALITY

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Sex is a natural biological desire, necessary for the procreation and sustenance of the human race, and obviously a source of pleasure – an important element in the human happiness. But in civilized society, almost everywhere including India, it has been controlled by the society through several prohibitions, like having sex only within the institution of marriage with no approval of premarital sex and extra-marital sex, control the age of sex, restriction on prostitution, pornography, and same-sex marriages, etc. So the question arises why to have these restrictions? The usual answer that this is not what our culture permits is not an answer which can satisfy an intellectual. After all, there are several practices, like 'Sati Pratha', ban on widow's remarriage, on the institutional education of women, Parda-Pratha, etc., which have been part of our culture, but we realized that they are inhumane, unjust, disharmonious for a healthy society and so we dropped them.

However, dropping them involved a long struggle of social reformists like Raja Ram Mohan Rai, Ishwar Chandar Vidyasagar, Sharat Chandar Chattopadyay, Maharishi Aurobindo, Rabindranath Tagore, Swami Vivekanand, Swami Dayanand, KeshubChunderSen, BankimChander Chatterjee, Ambedkar, etc. and much before them Saint Kabir, Guru Nanak,



etc. with the conservative forces. Why can't the same be thought about the sex and sexual norms today? Regarding sexual liberalization, probably the most well-known modern 'saint' has been Osho or Acharya Rajneesh, after J. Krishnamurti (who, however, didn't speak directly on sex liberalization in particular, but on the liberalization of mind in general from the given religious and cultural ethos) and much earlier none other than Buddha who was the first person to articulate rebel against the given-ness of cultural ethos by declaring that one need not accept anything simply for the reason that it has been said by the elders, parents, or teachers; rather one should accept some idea only after evaluating it logically. We will attempt the same exercise here in the same spirit.

Another answer for the restrictions on sex involves the reason that they maintain a social harmony in the society. For the unrestricted sex there will be kids with no name of father and such kids will not get good enough parenting from a single mother. But this can be answered by the use of contraceptives today. Rather this reason seems to be operative for the very emergence of the restrictions on sex in the earlier times when there were no contraceptives. Now we have contraceptives. So why these restrictions?

One more reason. Exclusivity of sex in a committed relationship, i.e., having sex with only one person with whom one is mentally/emotionally committed; call it 'exclusive committed sex' (ECS). And this can be in both ways – within marriage or without marriage. [Even for the without marriage case, one can





be in committed relationship with a person in a 'live-in'<sup>1</sup> relation or without live-in by living several miles apart from the partner, e.g. for having jobs of both at separate places.] The idea is that within the ECS there is a 'fidelity expectation' (call it FE), and the argument in its favour claims that if one is in genuine, intimate romantic love and relation with someone, how can his/her consciousness flow to someone else? If it is flowing, this means the love for the one is not complete or wholesome. One should be satiated in a complete relationship leaving no room for any other. How far this is a valid argument? In a normal friendship, no one expects like this. We do have a lot of good and genuine friends and we do have genuine or sometimes intimate relationships with many persons. So is it merely our social conditioning to feel in a different manner for the romantic love? Or, romantic love is inherently of different nature and is bound to be felt as part of human nature shaped by our evolutionary history?

Evolutionary theories (Ridley, 1995) inform us that males and females have followed different evolutionary pathways and so are psychologically different for romantic relationships. These theories usually label men to be promiscuous because they have several sperms at one time and want to spread them wide and far; on the other hand, women are selective to choose the most fertile

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<sup>1</sup>Live-in relationships means living together under the same roof but without entering into the formal legal contract, i.e. marriage. For some, it is a sort of 'trial marriage' to see the mutual-compatibility before formalizing the marriage. For others it may be just living together without getting into the foundation of the formal marriage and so remains a kind of 'free relationship', i.e. both persons live together with the understanding that if anyone doesn't feel comfortable or compatible after spending some time together, he/she is free to quit the relationship. Obviously, this involves a lot of emotional pain to the other person who may not feel in the same manner.

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and competent male to ensure that her one egg should be fertilized with the best of sperms and give birth to the best of progeny having maximum chances of survival successfully in the harsh competitive world. This explains women's attraction toward the competent and resourceful men and also for their fidelity (because they don't have several eggs at one time to be fertilized). There can be feminist attacks on such ideas who seem to 'justify' non-fidelity of men but fidelity of women. Without going into this controversy, if we assume this evolutionary explanation to be true, we come to the position that men and women are actually different as far as the sexual nature is concerned. Does it mean, should we justify men's promiscuity but not of women? There doesn't seem to be a clear answer. We are ethical beings and not just animals prey of our evolutionary forces. The fidelity expectation of both male and female seems justified since both want to ensure the resources of each other for their own off-springs. Male finds infidelity intolerable since he doesn't want to support the sperm of some other male, while female can't tolerate infidelity since he wants to possess the resources of her male for her own egg and doesn't want them to go away to other woman's egg – especially if the resources are scarce or limited. So are sexual-norms finally based on this kind of economics?

Then one more answer can be framed like this. Sex, being restricted to the married couple, binds the two partners in an exclusive, strong bond. One can share coffee, jokes, vehicles, etc. with other friends but not sex. So marriage provides an *exclusivity* to the relationship between a husband and wife, which



strengthen their relationship. Further, the traditional notion of marriage as an 'eternal bond' provides a 'buffer' to absorb the shocks of routine frictions, conflicts, disputes, etc. which are bound to crop up between any two persons in a relationship, as Sartre famously held to say – 'Hell is other person!'. In the absence of such buffer the two people will be prone to disperse away as soon as some conflict arises between them, which will result in the sense of isolation and depression in the society.

This argument seems to have some merit. The traditional model of marriage as an eternal bond conditions the minds of the people in marriage to move towards a stable relationship, providing each other a permanent companion who has first and foremost priority towards his/her spouse, irrespective of the circumstances or the physical separation between the two. Even if the spouse is thousands of miles away, e.g., being in a job which require them to live separately, still mentally they remain close. They feel this 'mental-proximity' with the implicit belief that he/she is the first and the most important person in the mind of his/her spouse and he/she will come to the help if the need arises leaving away whatsoever one is engaged in. Let's call it 'belief in spouse as the first priority' (BSFP) model under the traditional concept of marriage. It seems that BSFP contributes significantly in the human happiness and saves one from the depression of being alone in this harsh world.

However, divorce rate in modern world is much higher. What does it mean? Why do two persons in a marriage want to divorce? The first logical answer is obviously if their beings or personalities don't match together, which involves their priorities

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of values, ways of living, ways of thinking and feeling towards objects, events and phenomena in the world, or goals of life, etc. The two persons in a *genuine* marriage feel 'relating with each other' (call it REO) if there exists enough matching of these attributes of personalities of the two. If they live together for a sufficiently long period, sharing a lots of feelings, emotions and thoughts together, we can assume that a genuine love is bound to develop between the two. And this genuine love is the basis of BSFP discussed above. So if more divorces are happening now a days, this means not genuine love is developing for not having enough REO phenomenon among the two.

Plausibly this was happening always in the world for most of couples starting from the earlier times, when the taboo on divorce was too strong to be violated, and females were too strongly dependent on males for their economic and social needs and merely for the sake of such dependence divorces were not coming up. Now, females are much more empowered and taboos are far less strong and so divorces are surfacing. But the central concern is why REO is not developing sufficiently for the divorcing couples? If there is already far lesser REO between a couple and they are simply not finding way out of their 'dead marriage' that seems worse than having divorce: tolerating each other daily, rather in every moment in the tacit cognizance of each other's presence as the 'forced spouse'. Do sexual norms have anything to do with such sorry situation? Probably, yes.

Under the desire to have sex, and the unavailability of it in the socially sanctioned manner before marriage, most of people in our culture don't have sex before they could commit themselves

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in marriage, with the result that we have largely created a 'sex-starved society' (call it SSS). We don't have access to sex, and like what happens with any natural, biological need or desire – in the absence of fulfilment, the need or desire upsurges massively than its normal degree of demand - our sexual desire is 'abnormally' enormous. Sex dominates our talks and discussions, whether we appreciate it or condemn it and try to regulate the sexual behaviour of people. Non-human animals have certain seasons for sex when they come in heat, but for us we are always ready for sex. The existence of multi-millionaire business of pornography and prostitution is evidence of the fact that we are a sex-starved society (SSS); otherwise why should one pay for something so natural and so abundance in existence?!

Now, under such a condition, when a person enters into the world to look for a spouse or a lover, called as 'boyfriend' and 'girlfriend', he/she is not a 'normal' person; under the existence of state of SSS, one is looking for an attractive spouse, more as a 'sex-object' and less as a 'compatible companion'. This may not be as true for the females as for the males, since evolution has prepared females to look for the resourceful person who can assure survival of her progeny, can take good care of her them and can transfer better genes for better survival qualities in them. So females are less captivated under the SSS as compared to the males, and they look for other attributes like resourcefulness and personal qualities like courage, competence, sensitivity, nurturance, etc. in a male while selecting a mate other than his good looks or sex-appeal. Still, SSS has its allure on females as well. There are some studies, e.g. mentioned in the



article 'The Sadie Hawkins Effect: Gender Role-Reversals in Dating', authored by Prof. Gary W. Lewandowski, Jr. in the 'Science of Relationships', which showed that women may behave like men in their courtship behaviour under the reversed social conditions when instead of men approaching women, women are made to approach the men in a 'speed-dating' situation<sup>2</sup>, called 'Sadie Hawkins Effect'. Under the ordinary circumstances, it is usually a male who approaches a female, say, in a party for initiating the romantic relationships. This is what is called 'behavioural scripts' in psychology, which means – a sequence of events typically expected in a social setting or situation. In the ordinary condition, the women were found to be pickier than men, but in the reversed condition, men were found to be pickier than women. This is in conflict with the usual nativist assumption, usually under the evolutionary explanations, that women are pickier than men because of the inborn differences in their nature for the courtship behaviour. But this study indicates that it might be simply the effect of social pressures under which men are expected to play the role of approacher and women as that of selector. Naturally if there are a lots of potential suitors approaching one, the tendency of being picky comes in, which

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<sup>2</sup>Speed-dating is a structured way for daters to meet a lot of people quickly. The typical speed-dating event features women sitting at various locations around a room, often a coffee shop or bar, while men circulate and chat with each female for a few minutes. A signal will then indicate that time is up and the men should move along to the next woman. The process repeats until everyone at the event has "dated" each other. Afterward, the male and female participants let the event organizer know which partners they would like to see again. If the male and female indicate mutual interest, the organizer gives them each other's contact information and the would-be couple takes it from there. If done efficiently, a speed dater could meet over a dozen potential dating partners in less than an hour. – From 'The Sadie Hawkins Effect: Gender Role-Reversals in Dating', authored by Prof. Gary W. Lewandowski, Jr., in 'Science of Relationships')

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operates in the same manner for both males and females. Similarly, probably, the difference between sexual or romantic behaviours of men and women might simply be because of social pressures rather than to the inborn difference.

The overall effect of this SSS stands to orient the focus relatively more on the sex-appeal than the compatible personality-attributes of the other. This often results in the development of 'incompatible romantic relationships' (call it IRR), incompatible in terms of having a *common ground* of their beings where they can naturally relate with each other and so pave the way for a genuinely, deeply loving and compatible relationship. There can be emergence of a 'loving but incompatible relationship' as well since when two persons are romantically involved, even with quite incompatible personalities or beings, they do share a lot about the common world they live through which entails to the development of 'some love' between the two. Now two possibilities arise here – first, a lukewarm compatibility of personalities, and second, a clear discordant incompatibility between the two personalities. In the second case, love can't nurture in the first place and if nurtures somehow it is of shallow or superficial nature. Such discordant IRRs are bound to and should collapse into divorce. For the second kind of lukewarm compatibility, some genuine love might emerge, but the nature of relation never reaches to the deeper levels since the two never see the same world at the existential level. Their 'shared world' can never develop to the 'deeply shared world' to experience a deeply satisfying relationship between the two, and leads merely to the development of a 'lukewarm compatible



relationship'- an indifferent or half-hearted relationship. This situation is not as unhappy to be easily discernible and so is more dangerous in one sense. People live-through all their lives in this manner, feeling empty somewhere but oblivious to the actual cause of their emptiness. They can't blame the marriage or the spouse because apparently everything is okay (but only 'okay', not 'great') and social pressures force them to abide the relationship for apparently no reason of discord. Such situation can't categorically be decided in the favour of having divorce or not; probably much depends on the discretion of the concerned persons: they may choose to live a 'lukewarm loving and missing something' (call it LLMS) relation, or take the risk of destroying the customary setting and exploring the turbulence of a new, promising relationship through an 'experimental divorce' but obviously not without mutual consent. However, this may not always be materialized with the formal legal divorce. If the experiments fails they should have the option of coming back.

It might be pointed out, however, that it is probably this LLMS kind of marital-relationships that faces maximum number of extra-marital relationships. My focus here is towards exploring the psychological dynamics of failed marriages and the role of cultural sexual normativity in them. Our analysis till now points toward an important aspect and advocates for a change in sexual norms, namely 'allowing pre-marital sex' (call it APMS) to the mutually consenting adult partners. The proposal doesn't go against the age of consensual sex as decided by Indian Penal Code (sixth construct of Article 375 of the Criminal Law (Amendment) Bill, 2013)i.e. of more than 18 years for both males and females.





The law already allows for the same, but I am advocating the social-cultural acceptance of the idea of losing virginity before marriage.

Allowing pre-marital sex can contribute in making a culture more healthy towards sex and once the sexual urge is satisfied one can move towards finding the real companion in a natural manner; looking straight into the very being of the person for the long lasting relationships and not just a temporary infatuating one. In west, people having lost the virginity expectation, are relatively much more relaxed cultures regarding sex, and they marry at a relatively advanced age which is more congenial for understanding and appreciating other personality and the nature of dynamics of relationships. Economically also they are more well-off at this stage to arrange the necessities of life. So it is at this stage, when they are actually ready for the marriage – the genuine, true marriage, which lasts long as well there as compared to the marriages in the young age.

In western world, this has already become a normal, accepted practice but not in India, as has been pointed out by my empirical study carried out in Auroville, in Pondicherry in July 2013. It might be interesting to compare the western sexual attitude with respect to the traditional Indian sex-attitude along other dimensions as well, and to see what implications this might have for our culture.

Following is the brief description of my empirical study in this concern.



## The Empirical study

**Title:** "Comparing Sex-Attitude of Westerners with respect to the traditional Indian standards to assess the Degree of Deviance of Western Sexual-Attitude with Respect to the Traditional Indian Sex-Attitude."

**Participants:** 13 westerners from USA, Australia, European countries (like UK, Italy, Spain, Norway, Sweden, Germany, etc.), among whom 7 were males and 6 were females. All were from the age group of 20 to 45 years.

**Method:** Qualitative mode of study was chosen because often subtleties and complexities about the research topic are discovered through this method that are often missed by quantitative enquiries.

**Materials:** Semi-structured interview questionnaire involving four main dimensions was used, namely – 1) freedom of expression and indulgence in sex, 2) virginity attitude, 3) double sex-standards for males and females, 4) fidelity expectation. Each dimensions contained certain specific questions but scope for other comments was also left open. Besides this observation notes were also used.

**Procedure:** I did individual interview of all participants in addition to some group interviews as well. I choose to do certain group interviews so as to get their responses in a group. This was to ensure correction from the other members if the report of one member was found misleading by other members of the group. This also ensured development of rapport and sense of comfort



with the members of the group whom I could later approach easily for the indepth individual interviews.

**Summary of the Results:** For the four dimensions mentioned above I got the following results. Degree of deviation was high for the dimension of 'Freedom of Expression and Indulgence in Sex', i.e. they experienced much more freedom of expression and indulgence in sex, e.g. parents were much more open in discussing issues pertaining to sex with the kids, sometimes a girl may go for sex with multiple partners to decide the sexual-compatibility before committing to one particular individual. Further, boyfriends were known to the family of the girl and they could even stay at night in the house of girl, sometimes, rather sharing the room of the girl at night in the full cognizance of other family members (this is a radical behaviour from the conventional Indian expectations)!

The degree of deviation was high for 'Virginity Attitude'. A man marrying a woman doesn't expect her to be a virgin at all, rather sometimes (surprisingly to an Indian mind) non-virgin women were preferred than the virgin ones for being skilled in love-making. This means, largely women are allowed to have pre-marital sex. This is not a socially frowned situation, though Church is still active to bring people to the Victorian sexual norms which prohibits to have pre-marital sex.

The degree of deviation was low for the dimension of 'Fidelity Expectation'. This means they also expected, like Indians, to have faithful relationships with the romantic partners once the couple has committed to be in romantic relationship, i.e. as long as one is in a committed relationship he/she is not

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expected to have sex outside the relationship. However, this was also found that having sex outside the committed relationship was not so uncommon, though it was considered cheating and involved emotional hurt.

The degree of deviation was medium for the dimension of 'Double Sex-Standards for Males and Females'. This means, despite of much more freedom of sexual expression and indulgence as compared to Indian society, still they have different sexual norms or expectations from males and females, e.g. females are not expected to initiate the romantic relationship by approaching the male; it is male who is expected to pay the bill not female if a couple goes together in a restaurant; boys are encouraged to make more and more girlfriends by the siblings but the same is not the case for the girls, i.e. girls are not supported or helped by brothers, in some reports, to make boyfriends, rather girls are also 'protected' by the brothers, sometimes, against the approaching male (this is similar to usual Indian ways). In one instance of group-interview, one American male claimed that he gives full liberty to his sister and rather helps her in winning a boyfriend, but this was immediately refuted by other members of the group saying that he was lying and actually he tries to 'protect' her or sensor the boys approaching his sister.

**Interpretation:** Thus, we see that the western culture is certainly advanced in certain dimensions than the Indian culture, like in freedom of expression of sexuality and sexual indulgence, and for virginity attitude (i.e. largely women are not restricted socially for the pre-marital sex, so they do have sex without marriage), but they are still holding the double standards to

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certain extent for the sexual behaviour of males and females, and like a conventional Indian mind, they do expect sexual-fidelity from the spouse or the committed romantic partner (boy-friend or girl-friend), i.e. despite of all differences, on the dimension of 'fidelity expectation' westerners were not very different from the traditional Indian sexual-norms, i.e. they expect their partner to be faithful toward them, at least as long as the relationship holds good between them.

### **Conclusion:**

Sex has been controlled by societal norms for certain valid psycho-social reasons in its historicity, whose validity in modern world for the advent of contraceptives is doubtful. But certainly some psychological needs pertaining to happiness in long run and harmony can be fulfilled not by discarding all of these conventional norms. This includes the 'fidelity expectation' which gives a sense of belongingness and a reliable, faithful partner not only for all kinds of crisis periods but also for the moment to moment sharing of feelings, emotions, thoughts which is a fundamental human requirement. But this requires a compatible partner having compatibility not merely in terms of monetary resources and physical attractiveness but also at the psychological level – the beings of the two must resonate together. This is not possible if we keep the taboo on the pre-marital sex intact. Giving social acceptance to the pre-marital sex can liberate people from living in a sex-starved-society and so from the sexual-spectacles from which the potential partners are being searched.

Western world has liberated much from the kinds of taboos we are living with in India, and this seems to have developed a

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healthy sexual attitude among them with far lesser incidences of sex-crimes like eve-teasing, rape, etc. and have motivated them to find the 'real' compatibility at the level of psychological being of the other person and not merely physical attractiveness. We need to accept similar liberty with the restriction of intact fidelity expectation from the partner to move towards a better and healthy society regarding sex. Once a person is sexually liberated and healthy, we can expect him to orient his curiosity towards other wonder or mysteries of world and life.

Traditional Indian culture has been quite liberal in earlier periods, when under 'Shingar-ras' a lot of erotic literature has been developed, e.g. *Abhigyan-Sakuntalam*, *Meghdoot* written by Kalidas between 1st century BCE and 4th century CE, (Iyengar, 1938); *Geet-Govindam* (Reddy, 2012) by Jaidev, etc. contain explicit erotic descriptions of female beauty and love-making. *Kamsutra* composed in India between 400 BCE and 200 CE by Vatsayana (Avari, 2007); the *cave temples of Allora in Maharashtra* built between 6th and 9th centuries under the rule of the Kalachuri, Chalukya and Rashtrakuta dynasties, in the 16<sup>th</sup> cave; and 'Surya-deva' temple of Konark (Archaeological Survey of India, 2013; Behera, 1996) built in 13<sup>th</sup> Century built by king Narasimhadeva I of Eastern Ganga Dynasty in 13<sup>th</sup> century, and Kharuraho temple (McConnachie, 2005) built between 950 and 1150 by the Chandela monarchs in Chattarpur, Madhya Pradesh, etc. depict explicit sexual intercourse in various positions and situations through the idols of deities and celestial nymphs.

It was after the intervention of Muslim invasion and later British Victorian value-system that sex has been much

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suppressed in India, under which Indian sexual liberalism was stigmatized. Before the British, since the advent of Islam in India, the practices like 'purdah' became prevalent for the women. It is interesting that while west in 1960s and 1970s moved towards sexual liberalism taking inspirations from ancient liberal Indian sexual culture and texts (like Kamasutra, neo-Tantric philosophy, etc.), India itself gradually developed into much prudish culture than the west. With the increase in communication across cultures through media like television, movies, and now internet these differences are closing down leading to the proliferation of liberal sexual attitudes in India once again. This change, however, is not the result of conscious choice and awareness of a culture but seems more like the result of revolt of sexual-pressures against the prevalent hostile sexual culture of India. This paper takes an attempt in the direction of filling this gap by evoking a conscious discussion to decide the contours of the liberalized sexual norms and its impact on overall harmony and happiness in human life.

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## **CONFLICT INDUCED COLLECTIVE MOBILIZATIONS AND DYNAMICS OF ARMED CONFLICT IN KASHMIR**

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### **Introduction**

Protracted armed conflicts of whatever magnitude all over the world have posed serious challenges to the affected societies. Contemporary armed conflicts particularly secessionist movements engulf entire societies. Every aspect of life is affected by the conflict situation. The tangible and intangible costs of violence have far reaching economic, cultural and social ramifications. The spillover effects of protracted armed conflicts involve whole societies and give rise to large scale humanitarian and social crisis. The populations of these conflict zones are exposed to numerous problems ranging from threat to life, deaths, rape, enforced disappearances, displacement and destitution, psychological trauma, loss of livelihood besides addition of a large number of widows, orphans and people with physical disabilities. The large scale victimization and virtual collapse, weakened or nonexistent public support system (social welfare services) poses a serious challenge and strain on the various societal arrangements and institutions. The societal/peoples response to this emerging and evolving crisis is diverse.



The affected societies develop coping strategies (ways and means) for mitigating the social and economic impact of the conflict situation. In the context of conflict in Kashmir, we explore the nature and social context of people's collective response, to the emerging and evolving social and humanitarian crisis. Having developed a basic understanding of the people's collective response, we focus on the process of framing and problematization of the emerging social crisis. The discourse/narrative it generates and the resultant political socialization. We further attempt to understand the impact of this political socialization on the dynamics of conflict in Kashmir.

## **CONFLICT DYNAMICS**

Protracted armed conflicts have emerged to be a permanent feature of advanced political systems. The nature and impact of armed conflict are different from army to army wars. Armed conflicts "spills out across the social and cultural landscape" affecting the entire populations. In terms of death toll on an average 90% of death casualties are civilians (Crains 2000).

The underlying social processes which result in the manifestation of discontent, subsequent outburst of vicious cycles of violence and its impact on society at large are diverse in context, time and space. Even small spells of violence can change the social landscape which has implications on the various socioeconomic processes. Thus protracted conflicts are profound sources of social change.

The study of mechanism and sources of escalation and de-escalation of armed conflicts have received a considerable



scholarly attention over the last few decades. Azar's analysis of protracted conflicts has stimulated and provided the basis for subsequent understanding of conflict dynamics/transformation. The thesis revolves around the concept of "war weariness" and "release of equilibrating forces" moderating the intensity of conflict. However the sources of these "equilibrating forces" are somewhat unexplored. The emphasis here is that protracted conflicts fluctuate in intensity as societies cannot sustain intense conflicts indefinitely (Azar 1978). "Protracted conflict marked by brutality engenders radicalization and deepens divides, but over time it also releases an opposite dynamics in a war torn society, war weariness, a desperate yearning for the return of peaceful, normal climate and deligitimation of violent methods among all but a section of sectarian extremists on all sides" (Unknown). Implicit in these assumptions is some sought of change within the conflict systems. It emerges that cost benefit analysis by the societies involved in the conflict i.e "how long" and "at what cost" become major drivers of change and has a considerable bearing on the conflict transformation or conflict dynamics. As a consequence to this scholars have started exploring change processes within protracted conflicts.

According to Mitchell "conflict behaviors do change, interaction patterns alter and even the most protracted and intractable conflicts can be moved towards a resolution" (mitchell 2006). Mitchell (ibid) has distinguished between changes that create conflicts and changes which make conflicts intense or which help to ameliorate it. Mitchell has further framed the process of Dynamics of conflict perpetuation, exacerbation and mitigation.

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The role of change agents in bringing about conflict transformation is particularly important in this formulation. However the premises of this whole formulation are based on the analysis of macro social factors.

A cursory glance at the literature on conflict transformation/dynamics and social change reveals an overemphasis on change from above or interventionist approaches. A lot of research has gone into how to bring about changes which either deescalates the intensity of conflict or can bring about conflict resolution. As a consequence we usually talk about overcoming obstacles to change (Mitchell, 2006) and third party facilitation in conflict transformation/resolution. This interventionist orientation has ignored churning/shaking up taking place at the various levels of the societies affected by protracted conflicts.

In societies affected by protracted conflicts grass roots initiatives at the community levels have the potential of shaking and bringing changes in the beliefs and attitudes of parties involved in the conflict. These changes are sui generis and reflect emergence of new type of social solidarity cross crossing the traditional social barriers or boundaries. It is essentially in this context that this study has taken shape.

## **UNDERSTANDING THE CONTEXT: SOCIAL IMPACT OF CONFLICT IN KASHMIR**

The state of Jammu and Kashmir is engulfed in an armed conflict for the last two and half decades. The valley of Kashmir has remained its epicenter. The history of political mobilization and



its transformation into an armed insurgency represents culmination of various social changes that has shaped Kashmiri society during the last century. A vast body of literature has emerged, (Chowdhary 2010), (Dabla 2010), (Rao 2010) have dealt with various cantors viz a viz conflict in Kashmir and conflict over Kashmir. So without entering the debate about the genesis of conflict, its national or international dimensions, we focus our attention on its social impact.

Armed conflicts irrespective of their magnitude and intensity have posed serious challenges to the affected people. The economic impacts of armed conflicts are many and visible. Economic growth is virtually nonexistent due to loss and destruction of material assets, lack of investment and capital flight. Conflicts drive households and individuals into vicious cycles of poverty. This poverty entrapment due to loss of livelihood options has serious implications for the people living at margins. Priorities of the state shift the social sector spending get drastically reduced which complicates the situation further. However the affected people develop coping strategies which include petty trade by “barefoot entrepreneurs” associated with what is called “grass-roots war economy” (Chingono 2001).

The less visible social impact has both short and long term implications. The analysis or study of social impact of armed conflicts from a sociological eye requires a great deal of sociological imagination. As it has interacting and interpenetrating implications at micro, meso and macro levels. Our own experience of conflict, observation and reflection and interaction with people has helped us understand the intricacies

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of social impact of armed conflict in Kashmir. Our strategy is to understand the social impact under certain broad categories which are specific to our context.

## **DEHUMANIZATION OF THE NARRATIVE/DISCOURSE AND SOCIETY**

In order to understand the process of dehumanization the question we need to answer is what it signifies/entails. Human societies are based on dynamic consensus; however this consensus is not all pervasive or all encompassing. Conflicts are ubiquitous in human interactions and societies. Scholars have made distinctions between constructive and destructive conflicts. The dehumanization process is essentially associated with destructive conflicts. Dehumanization is a socio-psychological process in which the antagonists are projected as evil their destruction as the panacea for all the problems. It rationalizes and even provides morale justification for the treatment meted out to the adversary group. The adversary group members are not recognized as part of shared human community. Human rights violation is considered reasonable and even necessary. (Jeong 2008)

The precipitating factors which spark armed conflicts are context specific. These may emanate from perceived injustice and relative deprivation in social, economic and political spheres. This results in polarization, radicalization and mobilization and plays an important role in bringing about behavioral/attitudinal changes among the competing parties or conflicting parties. Human beings are born with certain basic/natural instincts of self interest which at times remain dormant and at times guide

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human actions. What guides and dominates human actions is to a great extent determined by the socio-political environment.

Polarization, radicalization and mobilization on conflicting issues lead to breakdown of institutional mechanisms for conflict resolution. As conflicts become overt or latent moral justification for violence emanates from the dehumanized mind. The often dormant human instincts of cruelty dominate the content of individual and collective consciousness. These dormant instincts find conducive social environment and start dominating the society.

In our context it emerges that the process of dehumanization emerges along several lines. It is a reactionary process. At the macro social level during the initial stages of armed conflict the failure of constitutional methods for achieving political goals provided the rationale for violent means. The state authority and its agents became the target of violence. The basis of dehumanization of state apparatus is provided by nation in danger theory and violence is justified on the pretext of protecting the territorial integrity and sovereignty of the state.

At the micro and meso levels the vicious cycles of violence and the dominating discourse become the basis of the process of dehumanization. The analysis and reflection on everyday discourse reveals that the value of human life becomes cheap and every death and killing has its own moral justification and is celebrated in different ways by the parties involved in conflict.

“In a major breakthrough security forces killed two militant commanders in a fierce encounter which lasted three



days. In the ensuing encounter one security personnel received bullet injuries, 02 civilians were also killed in the cross fire and 03 others received serious bullet injuries, 05 residential houses, 03 shops, 08 cowsheds, and 10 granaries were gutted in the gun battle. -----has congratulated the security forces for achieving this breakthrough. The two were carrying a cash reward of 25 lakh each."

"In a major strike which lasted three days huge casualties were inflicted on forces. Two commanders of the outfit belonging to ----- squad achieved martyrdom. Commander in chief while paying tribute to martyrs highlighted their valour and the bravery with which they fought the enemy. He further added that the mission for which they have given their lives will be taken to its logical conclusion".

"Authorities have issued shoot at sight orders and strict action will be taken against violators"

"Those cooperating with or supporting----- will be doing it at their own peril and should be ready for facing the consequences".

This type of discourse and rhetoric awakens the dormant instincts of cruelty and results in behavioral changes. The de-humanized mind has explanation and justification for every death/killing even genocide.

"Might have some links with ----- otherwise why should they kill him".

"They deserve this they should have killed earlier. They have inflicted deep cuts on us--"





As this dehumanized context dominates the content of collective consciousness it has spillover effects. This leads to increased crime rates, loss of social control besides unabated plundering of natural resources.

## **IMPACT ON SOCIAL DEMOGRAPHY**

The characteristics of demographic changes associated with protracted armed conflicts are more or less universal. Protracted conflicts bring death, enforced/involuntary displacement/migration and destruction. This has a serious impact on social demography.

As stated earlier almost 90% of all casualties in armed conflicts are civilian. The conflict in Kashmir over the last two decades has resulted in huge loss of life. According to certain estimates (Manchanda, 2010) seventy thousand people mostly in the adult age group have lost their lives. A large number of people have been inflicted with lifelong disabilities. Around four thousand people were subjected to enforced disappearances. All this has resulted in changes in household composition. There has been a spurt in women headed households.

“-----Ours was a happy family. I got both of my sons married ten years ago. They had established separate households and had two children each. Oh! on that fateful day we were returning from a marriage ceremony and were caught in cross fire. Both of my sons died and I received serious bullets injuries in my arm which was later acupunctured. Now I have two widows and 4 orphans in my family.”



"-----they took my husband on that night. Since then I am running from pillar to post but all in vein. I do not know where he is. I have two daughters and one son. I am still hopeful-----"

A large number of widows, half widows and orphans have been added to the population. There has been no attempt to establish their exact figure. According to a study conducted by UK based child rights organization "Save the Children" out of 2,14,00 orphans in Jammu and Kashmir 37% were orphaned due to conflict.

Enforced/involuntary migration and displacement are also the miseries associated with conflict. To escape the brutalities the affected sections of the society migrate to relatively safer places. At times the parties involved in conflict as a strategy force certain sections of society for migration.

"-----For the sake of safety of our lives to have left everything, except the cloths we are wearing-----"

Around 57,000 families in Kashmir are subjected to enforced migration. This displacement/migration has other dimensions also as this is not limited to general population only. Due to hostile environment intellectuals, professionals, medical practioners and teachers become part of this migration. This results in a vacuum which remains unfilled and has long term implications for the society at large. In the next section we shift our focus to the question which we have posed initially. What is people's response to the emerging crisis? What is its impact on conflict dynamics?



## **Social Crisis And People Collective Response**

As stated above polarization, radicalization and the subsequent mobilization induces certain amount of energy among the masses. In the highly volatile environment dominated by a de-humanized discourse (MARO YA MAR JA WO) (Kill them or achieve martyrdom) (Izat se ji to ji jaya ya jam I shadat pe jayi)(Either we will live with dignity or prefer to be martyrs), we witness intensification of conflict and large scale destruction of human lives. However after a certain period, the dust begins to settle down, air inside the balloon finds some escape root and the initial euphoria diminishes, the intensity of conflict also falls. Some of this energy is also directed to humanitarian assistance.

The underlying forces stimulating this transformation are many. In this section which is the core of this study we explore some of these forces in the context of conflict in Kashmir. From our experience, reflection and analysis of the conflict in Kashmir, we observe a peculiar pattern. (We suspect this pattern to be universal across conflict zones)

The energy induced among the masses due to mobilization results in escalation of conflict. However a part of this energy shapes the humanitarian response of the society. In all conflict zones there are voices in the society constantly sounding alarm bells about the social concerns emanating from violence. Armed conflicts essentially results in the victimization of innocent people. This victimization generates 'shock waves'. The crusts and troughs of these waves are experienced by every section of the society irrespective of their socio-politico and religious affiliations.



"-----an inquiry commission has been constituted which will probe the incident. We are committed towards zero tolerance of human rights violations-----"

"----- leaders cutting across political lines have condemned the incident and expressed grief and anguish. Such barbaric and inhuman acts-----"

Protracted conflicts rejuvenate the pre-existing patterns of social solidarity, the ways and means of shaping this solidarity. As the society is in an excited state the release of "orbital electrons" results in the emergence of a new type of social solidarity at local/community level. The concern about the plight of the victims of violence gradually grows. The process begins at the local/community levels, acts as shock absorbers for mitigating the overall impact of the conflict situation. These coping strategies (measures) draw or flow from the "cultural repertoire", the emerging social solidarity and are thus embedded in existing social security net and socio – cultural traditions.

## **OBSERVATION**

A gun battle in a village results in ----- casualties, ---residential houses are gutted at the peak of winter. After the gunfight is over a large gathering of people from the village and adjoining localities assemble at the encounter sight. Sympathies amass are expressed with the victims (Morale support). Emotions are running high; a funeral procession is taken out by this emotional crowd. The emotional and highly sentimental atmosphere provides the first opportunity for collective action. We witness emergence of a transitory volunteer group which we call



conscious collectivities. The volunteers are motivated by morale concerns about the plight of victims and a certain amount of religious zeal. This transitory group raises material resources to provide immediate support to the victims. However such incidents are a regular affair in conflict zones. Therefore these transitory informal groups assume a relatively permanent character.

In the context of Kashmir given their sacred nature, religious, economic and political significance mosques/shrines are important institutional actors in the social and political life of Kashmir. As places of worship and solace mosques/shrines attract huge gatherings of people from all walks of life especially during congregational prayers and on festive occasions. These remain at the center stage of social and political upheavals. Large tracts of land and other assets are attached to these mosques/shrines. (Zutshi, 2010) The tradition of AWQAF or INTIZAMIA committees running the affairs of the local mosque/shrine is prevalent (both urban and rural settings). Besides managing the affairs of the mosque/shrine these committees remain influential in other social aspects also. Capitalizing on donations received in the form of ZAKAT (Islamic levy mandatory on all Muslims who have retained certain amount of wealth for at least a year) and alms (sadakats), BITULMALS are important (though not mandatory) constituents of these committees. BITULMALS are institutional arrangements in Muslim societies for collection and redistribution of (ZAKAT) and (SADAKAT). The transitory volunteer groups and committees collaborate to provide support to the victims of violence. As the scale and magnitude of



victimization increases, these loosely organized and intermittent grass roots initiatives develop into an organized effort and a basis for a larger collective mobilization. The mobilization is motivated by humanism/humanitarian values and guided by 'middle class liberals' (Harington 1968:291) or "conscious collectivities" who demonstrate strong sympathies for the victims of violence. The movement intellectuals, "combining moral and religious consciousness into an integrated social gospel" (Ron, 1991) and by framing and problematizing the emerging social crisis transform these local initiatives into a mass mobilization. The mobilization represents the collective concern of the people towards the vulnerability of the victims of violence and future social consequences.

## **FRAMING AND PROBLEMATIZATION**

Every collective action/mobilization has a reason d'être which is the basis of its grass roots support and motivation for its constituents and adherents. Problematizing socially constructed shared concerns and projection of means to mitigate such social concerns give impetus to collective action. "vocabularies of severity, urgency, and propriety are socially constructed and provide adherents with compelling accounts for engaging in collective action and for sustaining their participation". (Benfro and Snow 2000) In conflict zones the parties involved in conflict suspect, discourage and at times subvert organized grass roots collective initiatives. However, despite a hostile political environment, the local community based initiatives play a pivotal role in mobilizing resources for mitigating miseries of victims and the social impact of conflict. After a certain period of time as the



deescalatory forces set in, violence recedes and the intensity of conflict also falls. In our context by mid 1990's we witness a decline in violence and intensity of conflict. The "churning and purging" induces a new lease of life to the hitherto dormant voices of "conscious collectivities" at the forefront of the initiatives at the local levels. The "conscious collectivities" stimulate a debate around the victimization, plight of victims and the social impact of conflict. This becomes the basis of a mass mobilization.

The movement intellectuals employ all available and possible means to create awareness, consciousness and stimulate solidarity and sympathies. The stories narrating the horror and brutalities, agonies, miserable and underdog conditions of victims are packaged and become an integral part of social gospel.

"-----her thin red lips snap open to utter the miserable tale and horrible experience that she underwent-----"

"-----he has nowhere to go -----had no one to turn to in this cruel world".

"----- there is no one to look for his tantrums and good schooling-----"

"-----Should I narrate to you the miseries and agonies of the victims, you won't be able to control your emotions. Two decades of conflict (NA MASAI HALAT) have thrown unto us new challenges. Thousands of our own people have been killed. Have not they left behind orphans, widows and aged parents I ask all of you? Thousands of our own people have sustained lifelong physical disabilities do not they require a helping hand.



Thousands of our own people are braving the harsh weather conditions in temporary shelters. Imagine the conditions of the children freezing in this chilling winter. All these are looking at us with moist eyes and crying for our support.-----

Friend at this critical juncture of our history let us not turn blind. Let us join hands and dedicate ourselves to this noble cause and let us not put our own future in danger.

The conscious collectives mobilize resources using Public contact programs, awareness campaigns and appeals in print and electronic media. Resources are mobilized primarily by framing elements from cultural repertoire and what is morally imperative for the public good. Religious conception of moral community is framed as a model for ideal society. The concerns for victims of violence are projected as religious obligations thus binding on all believers.

“—we had a tradition of close relatives adopting the orphans. This tradition was instrumental in providing the much needed support to orphans and prevented them from exploitation. This has been our cultural heritage and religious obligation also. The situation that has emerged due to two decades conflict should not this tradition of ours be revived and strengthened. Should not we come forward to help the victims of violence-----”

### **Social Impact and Consequences of the Mobilizations**

Collective mobilizations as agents of social change open new public spaces, generate new ideas, transform world views and may also reinforce cultural values. It challenges the established discourse/narrative by redefining situations, opening new

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conceptual spaces and framing new issues. It helps stimulate a debate in which ideas and programs are constituted, contested and tested. As agents of socialization collective mobilizations reorient human consciousness in the society, play a dynamic and mediating role in defining social problems and social shaping of knowledge. Collective mobilizations are instrumental as well as communicative. As instrumental agents these act as resource mobilizers while as communicative agents generate new resources including movement intellectuals and networks of communication. These intellectuals and the networks of communication are instrumental in creating new social actors and through them reorientation or transformation in the society.

The mass mobilizations arising out of the concerns for the victims of conflict deep down the line has induced or stimulated certain changes. For the sake of convenience, we categorize these changes into subsidiary and transformative changes. While subsidiary changes concern with quasi-structural/accumulative/intra systemic changes occurring within a given system. Transformative changes in our context are changes which have forced the parties involved in conflict to shift their strategies.

### **SUBSIDIARY SOCIAL CHANGES**

Framing and problimatization of the humanitarian crisis and “appeals to morale consciousness” emerging out of conflict situation reorients the consciousness of the society at large. This has ushered in reinforcement of social solidarity both at the micro and macro social levels creating a sense of “we feeling” among the masses. The traditional barriers of the social system

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are shaken and we observe blurring of “the boundary conditions of the social system” and emergence of “de-commodified” collectivities”

The use of cultural tools as resource mobilizers and their projection as means for mitigating the social impact of conflict lays the foundation for intra-systemic changes. We observe revitalization or remodeling of community based safety nets which are part of “cultural repertoire”. To a certain degree formalization of these loosely woven “safety nets” is observed. In our context as observed earlier the existence of transitory volunteer or conscious collectivities at the local levels for lending support to victims of violence have crystallized and assumed relative permanence. The packaging of religious traditions, symbols and obligations by movement intellectuals revitalizes the religious orientations in the society. In our context, as mentioned earlier establishment of BITULMALS as organs of AWQAF committees at the local levels and its universalization is an example par excellence of this process. Over the years through diversification and opening to wider social issues these have gained social significance. These have emerged as important constituents of the community support system.

Political mobilization of women and increase in women headed households manifests in domestic activism. The role of women as mothers and sisters was stretched to other spheres also. One of the important social issues which caught the imagination of conscious collectivities was the exponential increase in the number of young widows and orphans.



"----her -in-laws have expelled her a few years back. Now her brothers are doing the same. Dear brothers let us ponder where the widow will go with her orphans-----"

Property rights of women and widow remarriage received much focus in the mobilization. Religious decrees from reputed religious seminaries and scholars provided impetus for the propagation of women's rights. Through economic emancipation of widows, legal aid and mass campaigns the mobilization has helped raise awareness and consciousness about women's rights.

### **Transformatory Changes from Arms To The Street**

The emergence of transitory volunteer groups or conscious collectivities is a spontaneous societal response to the conflict situation. The basis of this mobilization is essentially humanitarian. The mobilization remains politically neutral and is not directed against any social group or establishment. Political quietism is a strategic tool used by movement intellectuals to garner wide acceptance and mass support. "-----We are apolitical and do not have any affiliation with any political group. We are concerned with humanitarian obligations -----". This apolitical character is particularly emphasized. Yet the way the humanitarian crisis and the social impact of the armed conflict is framed and problematized, it reorients the political outlook of the masses and becomes the basis of a newer type of political socialization.

As we have observed earlier, the transformation of political mobilization into an armed insurgency was dominated by a de-humanized discourse. The discourse/narrative emerging out of



this mobilization acted as one of the important de-escalatory forces and a major factor in conflict transformation. The slogans of "Kill them or achieve martyrdom" are replaced by "Kaem Kaem Khani Gai woojarh; Kaem Jawani Rahil Khei Aem Bondukan" (The killer gun has devastated whole families and eaten our younger generation).

"oh! This killer cyclone (war)-----we do not know at what cost will this end-----"

"-----this is nothing but a result of our sins-----only God can save us. God is the only hope-----"

"-----what did we get out of this-----nothing but mushrooming of grave yards-----"

" -----waging war has not solved any issue-----"

Despite the strategy of political quietism adopted by conscious collectivities, the mobilization resulted in a discourse which at the micro social level created disillusionment with the armed conflict. Questions were started being raised about the strategy of engaging in a prolonged conflict. the initial euphoria of engaging in an armed conflict almost died a silent death. Sensing the public mood and ground realities majority of the organizations engaged in armed conflict and their leadership shifted gears and donned political caps.

"Bondok(Gun) has played its role in highlighting our just and genuine cause, there is no further need for engaging in armed struggle. We will take the movement to its logical conclusion through peaceful means". (Leader of an armed group while



announcing cease fire) The other party responded positively to the development.

"We welcome---everything can be discussed on the table -----and sky is limit---"

"We have no preconditions we will talk with them under the ambit of humanity".

In the late 1990's we witness desperate efforts for peace building and initiation of political dialogue at various levels.

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## NEW APPROACH TO COMPACTNESS IN FUZZY SOFT TOPOLOGICAL SPACE

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### 1. Introduction

Soft set theory was firstly introduced by Molodtsov[4] in 1999 as a general mathematical tool for dealing with uncertain fuzzy not clearly defined objects. He has shown several applications of this theory is solving many practical problems in economics, social science, environment, medical science etc Xiao et al [16] and Pie and Mio[11] discussed the relationship between soft sets is a parameterized classifications of the objects of the universe. The topological structures of soft set theories dealing with uncertainties were first studied by Cheang[3] He introduce the notion of fuzzy topology and also studied some basic properties. T. Simskler , S. Yuksel[14] 2013 study fuzzy soft topology over a fuzzy soft set with parameter set. Some other [1], [2],[7],[13] studied on the compact fuzzy soft topological space. My main aim in this paper is to develop the basic properties of fuzzy soft compactness and establish several equivalent forms of fuzzy soft spaces.

### 2. Preliminaries

**Definition2.1 [13]** A pair  $(F, E)$  is called a soft set (over  $U$ ) if and only if  $F$  is a mapping of  $E$  into the set of all subset of the set  $U$ . In other words, the soft set is a parameterized family of subsets of the set  $U$ . Every set  $F(\varepsilon), \varepsilon \in E$  from this family may be considered as the set of  $\varepsilon$ -elements of the soft set  $(F, E)$  or as the set of  $\varepsilon$ -approximate elements of the soft set.



**Definition2.2 [13]** A pair  $(F, A)$  is called a fuzzy soft set over  $U$  where  $F: A \rightarrow \tilde{P}(U)$  is a mapping from  $A$  into  $\tilde{P}(U)$ .

**Definition2.3[10]** For two fuzzy soft sets  $(F, A)$  and  $(G, B)$  in a fuzzy soft class  $(U, E)$ , we say that  $(F, A)$  is a fuzzy soft subset of  $(G, B)$  if

$$i) A \tilde{\subseteq} B$$

ii) For all  $\varepsilon \in A$ ,  $F(\varepsilon)$  is a sub set  $G(\varepsilon)$  and is written as  $F \tilde{\subseteq} (G, B)$

**Definition2.4 [10]** The complement of a fuzzy soft set  $(F, A)$  is denoted by  $(F, A)^c$  and is defined by

$(F, A)^c = (F^c, A)$ . Where  $F^c: A \rightarrow \tilde{P}(U)$  is mapping given by

$$F^c(\alpha) = U - F(\alpha) = [F(\alpha)]^c \quad \forall \alpha \in A$$

**Definition2.5 [8]** Let  $A \tilde{\subseteq} E$ . Then the mapping  $F_A: E \rightarrow \tilde{P}(U)$ ,

defined by  $F_A(e) = \mu^e F_A$  (a fuzzy subset of  $U$ ) is called fuzzy soft over  $(U, E)$ , Where  $\mu^e F_A = \tilde{0}$  if  $e \in E - A$  and  $\mu^e F_A \neq \tilde{0}$  if  $e \in A$ . The set of all fuzzy soft set over  $(U, E)$  is denoted by  $FS(U, E)$

**Definition2.6 [13]** The fuzzy soft set  $FFS(U, E)$  is called null fuzzy soft set and is denoted by  $\tilde{0}$ . Here  $F_{\tilde{0}}(e) = \tilde{0}$  for every  $e \in E$

**Definition 2.7[12]**

A fuzzy soft topology  $T$  on  $(U, E)$  is a family of fuzzy soft sets over  $(U, E)$  satisfying the following properties

$$(i) \tilde{\phi}, \tilde{E} \in \tau$$





(ii) If  $F_A, G_B \in T$  then  $F_A \tilde{\cap} G_B \in \tilde{\tau}$

(iii) If  $F^\alpha A_\alpha \in \tilde{\tau}$  for all  $\alpha \in \Delta$ , then  $\cup F^\alpha A_\alpha \in \tilde{\tau}$

### Definition 2.8[ 8 ]

If  $T$  is a fuzzy soft topology on  $(U, E)$ , then  $(U, E, T)$  is said to be a fuzzy soft topological space. Also each member of  $T$  is called a fuzzy soft open set in  $(U, E, T)$

### Definition 2.9[13]

Let  $(U, E, T)$  be a soft topological space. A soft separation of  $\tilde{U}$  is a pair of  $(F, E), (G, E)$  of non-null soft open sets over  $U$  such that  $\tilde{U} = (F, E) \cup (G, E), (F, E) \tilde{\cap} (G, E) = \emptyset_E$

## 3. Main Results

**Definition3.1** A family  $(G, E)$  of fuzzy soft sets is a cover of a fuzzy soft set  $(F, E)$  if  $(F, E) \subseteq \cup \{(F_i, E), (F_i, E) \in (G, E), i \in I\}$

It is a fuzzy soft open cover if each member of  $(G, E)$  is a fuzzy soft open set.

**Definition3.2** let  $(X, \tau, E)$  be a fuzzy soft topological space and  $(F, E)$  be a fuzzy soft set then  $(F, E)$  is called compact iff every fuzzy soft open cover of  $(F, E)$  has a finite sub cover.

**Example3.1** A fuzzy soft topological space  $(X, \tau, E)$  is compact if  $X$  is finite.

**Proposition3.1** Every closed fuzzy soft subspace of a compact space is fuzzy soft compact.

Proof: Let  $(Y, E)$  be a closed fuzzy soft subspace of the fuzzy soft compact space  $(X, E)$ . Let given a covering  $(A, E)$  of  $(Y, E)$  by sets of open in  $(X, E)$ .



Let  $(B, E)$  open covering of  $(X, E)$  by adjoining to  $(A, E)$  the single open fuzzy sets  $(X, E) - (Y, E)$  that is  $(B, E) = (A, E) \tilde{\cup} \{(X, E) - (Y, E)\}$  some finite sub -collection of  $(B, E)$  covers  $(X, E)$ . If this sub-collection contains the set  $(X, E) - (Y, E)$ , discard  $(X, E) - (Y, E)$ ; otherwise, leave the sub-collection alone. The resulting collection is a finite sub-collection of  $(A, E)$  that covers  $(Y, E)$ .

**Definition 3.3** Let  $(X, \tau, E)$  be a fuzzy soft topological space over  $X$  and  $x, y \in X$  such that  $x \neq y$ , then there exists two open set  $(F, E)$  and  $(G, E)$  such that  $x \in (F, E)$  and  $y \in (G, E)$   $(F, E) \tilde{\cap} (G, E) = \phi$  then  $(X, \tau, E)$  is said to be fuzzy soft Hausdorff space or  $T_2$ -space.

**Example 3.2** Let  $X = \{h_1, h_2\}$ ,  $E = \{\mu_1, \mu_2\}$  and  $T$  be the soft discrete topology on  $X$ . Then  $(X, \tau, E)$  is fuzzy soft Hausdorff space.

**Proposition 3.2** Every fuzzy soft compact subset  $(A, E)$  of a Hausdorff space  $(X, E)$  is fuzzy soft closed.

Proof: Let  $x \in (A, E)^c$ . Since  $(X, E)$  is Hausdorff and  $y \in (A, E)$  then there exists two fuzzy soft open nhds of  $x, y$  which denote respectively  $(G, E)$  and  $(H, E)$  such that  $(G, E) \tilde{\cap} (H, E) = \phi$ . Now the collection  $\{(H_{y_i}, E); y \in (A, E)\}$  is an fuzzy soft open cover of  $(A, E)$ . Since  $(A, E)$  is fuzzy soft compact then there exists finite number of point  $(H_{y_1}, E), (H_{y_2}, E), (H_{y_3}, E), \dots, (H_{y_n}, E)$ . Then  $\bigcap_{i=1}^n (H_{y_i}, E)$  is open set containing  $x$  and contained in  $(A, E)^c$ . Thus  $(A, E)^c$  is fuzzy soft open and so  $(A, E)$  is fuzzy soft closed.

**Example 3.3** A fuzzy soft compact space which is not fuzzy soft Hausdorff.

Consider the fuzzy soft topology  $\tau = \{\phi, \{a\}, \{a, b\}, X\}$  on  $X = \{a, b, c\}$ . Since  $X$  is finite fuzzy soft set. It is fuzzy soft compact. But  $X$  is not



fuzzy soft Hausdorff.  $A$  and  $b$  are distinct fuzzy soft point having no disjoint fuzzy soft nhds.

**Example 3.4** Co-finite fuzzy soft topological space is fuzzy soft compact.

**Proposition 3.3** The image of a fuzzy soft compact space under a continuous map is fuzzy soft compact.

Proof: Let  $F:(X,E) \rightarrow (Y,E)$  be continuous. Let  $(X,E)$  be fuzzy soft compact. Let  $(\alpha_i E)$  be a covering of fuzzy soft set  $f(X,E)$  by the fuzzy soft open in  $(Y,E)$ . Then the collection  $\{F^{-1}(A_i, E) / (A_i, E) \in (\alpha_i E)\}$  is the collection of fuzzy soft sets covering  $(X,E)$ . Since  $f$  is fuzzy soft continuous. So  $(X,E)$  is fuzzy soft open. Hence  $F^{-1}(A_1, E), F^{-1}(A_2, E), F^{-1}(A_3, E), F^{-1}(A_4, E), \dots, F^{-1}(A_n, E)$  are fuzzy soft cover in  $(X,E)$ . Then the fuzzy soft sets  $(A_1, E), (A_2, E), (A_3, E), \dots, (A_n, E)$  cover  $F(X, E)$ .

**Definiion3.4** A fuzzy soft topological space  $(X, \tau, E)$  is said to be fuzzy soft countably compact iff every open cover of  $(X, \tau, E)$  has a finite sub cover.

**Example3.5** Every fuzzy soft compact metric space is fuzzy soft countably compact.

**Proposition3.4** A fuzzy soft topological space  $(X, \tau, E)$  be fuzzy soft compact iff every sequence in  $(X, \tau, E)$  has a cluster point in  $X$ .

Proof; Let  $(X, \tau, E)$  be fuzzy soft countably compact and let  $\langle X_n, E \rangle$  be any fuzzy soft sequence in  $(X, \tau, E)$ . Let  $(A_n, E) = \{(X_k, E); k \geq n\}$  Then  $\{(\tilde{A}_n, E); n \in N\}$  is a countable collection of closed subset of  $X$  with FIP.

Let  $x_0$  be a point of the intersection of the family. So  $x_0 \in (\tilde{A}_n, E); \forall n$ .

Then it can be shown that  $x_n$  is a cluster point of the sequence  $\langle X_n, E \rangle$ .

For let  $N$  be any nhbd of  $x_0$  and let  $m$  be any positive. Then  $x_0 \in (\tilde{A}_m, E)$



and so  $N \cap A_m \neq \emptyset$  hence  $X_p \in N$  for some  $p \geq m$ . Hence  $x_0$  is cluster point of the sequence.

Conversely, Let every sequence in  $X$  have a cluster point. Let  $\{(A_n, E); n \in N\}$  be countable collection of closed subset of  $X$ . For each  $n$  select a point  $x_n$  from  $\tilde{\cap}\{(A_i, E); i = 1, 2, \dots\}$

Let  $x_0$  be a cluster point of  $\langle X_n, E \rangle$ . Let  $N$  be any nhd of  $x_0$  and  $m$  any positive integer  $X_p \in N$ , for some  $p \geq m$

Hence  $X_p \in (A_m, E)$  therefore  $(A_m, E) \cap N \neq \emptyset$  and so  $x_0$  is an adherent point of  $A_m$  that is  $x_0 \in (\tilde{A}_m, E)$  But  $(\tilde{A}_m, E) = (A_m, E)$

Hence  $\tilde{\cap}\{(A_n, E); n \in N\} \neq \emptyset, \forall m$  so  $(X, \tau, E)$  is fuzzy soft countably compact.

**Definition 3.5** A fuzzy soft topological space  $(X, \tau, E)$  is said to be fuzzy soft locally compact iff every point of  $X$  has at least one neighborhood whose closure is fuzzy soft compact.

**Proposition 3.5** Every fuzzy soft compact topological space  $(X, \tau, E)$  is locally compact.

**Proof:** Let  $(X, \tau, E)$  be fuzzy soft compact space. Since  $(X, \tau, E)$  be fuzzy soft open and fuzzy soft closed. It is a neighborhood of each of its points such that  $(X, \tau, E)^c = (X, \tau, E)$  is fuzzy soft compact. Hence  $(X, \tau, E)$  is fuzzy soft locally compact.

**Proposition 3.6** Every fuzzy soft closed subspace of a locally compact space is fuzzy soft locally compact.

#### 4. Conclusion

Topology is an important and major area of mathematics and it can give many relationships between other scientific areas and mathematical models. In this present work I have continued to study



the properties of soft topological spaces. We introduced soft cover, open cover, compact fuzzy soft Hausdorff space, and countable fuzzy soft open cover, locally compact and have established several interesting properties. I hope that the findings in this paper will help researchers enhance and promote the father study on fuzzy soft topology to carry out a general framework for their applications in practical life.

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## **A SURVEY ON THESAURUS BASED APPROACH FOR DIFFERENT DOMAIN OPINION ANALYSIS**

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### **I INTRODUCTION**

Graphs and networks certainly rank among one of the most popular data representation models due to their universal applicability to various application domains. The need to analyze and mine interesting knowledge from graph and network structures has been long recognized, but only recently the advances in information systems have enabled the analysis of graph structures at huge scales. Analysis of graph and network structures gained new momentum with the advent of social networks. While the analysis of social networks has been a field of intensive research, particularly in the domains of social sciences and psychology, economy or chemistry, it is the emergence of huge social networking services over the Web that spawned the research into large-scale structural properties of social networks.. Social networks exhibit a very clear community structure. Such community structure partially stems from objective limitations (e.g., internal organizational structure of a company can be closely represented by the ties within a particular social network) or, to some extent, may result from subjective user actions and activities (e.g., bonding with other people who share one's interests and hobbies).

Social networks are highly effective in bolstering group formation of similar individuals. Groups of nodes that share common properties tend to get connected in the social network. Opinion mining is the



domain of natural language processing and text analytics that aims at the discovery and extraction of subjective qualities from textual sources. Opinion mining tasks can be generally classified into three types. The first task is referred to as sentiment analysis and aims at the establishment of the polarity of the given source text (e.g., distinguishing between negative, neutral and positive opinions). The second task consists in identifying the degree of objectivity and subjectivity of a text (i.e., the identification of factual data as opposed to opinions).

This task is sometimes referred to as opinion extraction. The third task is aims at the discovery and/or summarization of explicit opinions on selected features of the assessed product. Some authors refer to the this task as sentiment analysis. All three classes of opinion mining tasks can greatly benefit from additional data that may be provided from the social network. Added knowledge may include: a node's centrality indexes, a node's group membership, nomenclature utilized within the group, average group opinion on selected products, group's coherence and cohesion, etc. All these variables enrich opinion mining algorithms and provide additional explanatory capabilities to constructed models.

## II OBJECTIVE

Example:

Let us consider the reviews shown in Table 1 for the two domains: *books* and *kitchen appliances*. Table 1 shows two positive and one negative reviews from each domain.





	Books	Kitchen appliances
+	<b>Excellent</b> and <b>broad</b> survey of the development of civilization with all the punch of <b>high quality</b> fiction.	I was so <b>thrilled</b> when I unpack my processor. It is so <b>high quality</b> and <b>professional</b> in both looks and performance.
+	This is an <b>interesting</b> and <b>well researched</b> book.	<b>Energy saving</b> grill. My husband loves the burgers that I make from this grill. They are <b>lean</b> and <b>delicious</b> .
-	Whenever a new book by philippa Gregory come out, I buy it hoping to have the same experience and lately have been sorely <b>disappointed</b> .	These knives are already showing spots <b>rust</b> despite washing by hand and drying. Very disappointed.

Table No.1 Positive (p) and Negative (⌋) Sentiment Reviews in Two Different Domains: Books and Kitchen

Sentence	<b>Excellent</b> and <b>broad</b> survey of the development of civilization
POS tags	Excellent/ JJ and /CC broad/JJ survey/NN1 of IO the/AT development/NN1 of IO civilization/NN1
Lexical elements (unigrams)	Excellent , broad, survey, development, civilization
Lexical element (bigrams)	Excellent+ broad, broad+survey, survey+development, development+civilization, civilization
Sentiment elements	Excellent *P, broad*P, survey*P, development*P, civilization*P, Excellent + broad*P, broad+survey*P, survey+development*P, development+civilization*P

Table No.2 Generating Lexical and Sentiment Elements from a Positive Review Sentence



We have emphasized the words that express the sentiment of the author in a review using old face. From Table 1 we see that the words excellent, broad, high quality, **interesting, and well researched are used to express a positive** sentiment on books, whereas the word disappointed indicates a negative sentiment. On the other hand, in the kitchen appliances domain the words thrilled, high quality, professional, energy saving, lean, and delicious express a positive sentiment, whereas the words rust and disappointed express a negative sentiment. Although words such as high quality would express a positive sentiment in both domains, and disappointed a negative sentiment, it is unlikely that we would encounter words such as well researched for kitchen appliances or rust or delicious in reviews on books. Therefore, a model that is trained only using reviews on books might not have any weights learnt for delicious or rust, which makes it difficult to accurately classify reviews on kitchen appliances using this model.

One solution to this feature mismatch problem is to use a thesaurus that groups different words that express the same sentiment. For example, if we know that both *excellent* and *delicious* are positive sentiment words, then we can use this knowledge to *expand* a feature vector that contains the word *delicious* using the word *excellent*, thereby reducing the mismatch between features in a test instance and a trained model. There are two important questions that must be addressed in this approach: *how to automatically construct a thesaurus that is sensitive to the sentiments expressed by words?*, and *how to use the thesaurus to expand feature vectors during training and classification?*. The first question is discussed in Section 4, where we propose a distributional approach to construct a sentiment sensitive thesaurus using both labeled and unlabeled data from multiple domains. The second question is addressed in Section 5, where we



propose a ranking score to select the candidates from the thesaurus to expand a given feature vector.

### III LITERATURE SURVEY

#### A) Related work done:

Supervised learning algorithms that require labeled data have been successfully used to build sentiment classifiers for a given domain <sup>[1]</sup>. However, sentiment is expressed differently in different domains, and it is costly to annotate data for each new domain in which we would like to apply a sentiment classifier. For example, in the *electronics* domain the words "durable" and "light" are used to express positive sentiment, whereas "expensive" and "short battery life" often indicate negative sentiment. On the other hand, if we consider the *books* domain the words "exciting" and "thriller" express positive sentiment, whereas the words "boring" and "lengthy" usually express negative sentiment. A classifier trained on one domain might not perform well on a different domain because it fails to learn the sentiment of the unseen words. The *cross-domain sentiment classification* problem <sup>[7], [8]</sup> focuses on the challenge of training a classifier from one or more domains (source domains) and applying the trained classifier on a different domain (target domain). A cross-domain sentiment classification system must overcome two main challenges. First, we must identify which source domain features are related to which target domain features. Second, we require a learning framework to incorporate the information regarding the relatedness of source and target domain features. In this paper, we propose a cross-domain sentiment classification method that overcomes both those challenges.

We model the cross-domain sentiment classification problem as one of *feature expansion*, where we append additional related features to feature vectors that represent source and target domain reviews in order to reduce the miss-match of features between the two



domains. Methods that use related features have been successfully used in numerous tasks such as query expansion <sup>[9]</sup> in information retrieval <sup>[10]</sup>, and document classification <sup>[11]</sup>. For example, in query expansion, a user query containing the word *car* might be expanded to *car OR automobile*, thereby retrieving documents that contain either the term *car* or the term *automobile*. However, to the best of our knowledge, feature expansion techniques have not previously been applied to the task of cross-domain sentiment classification. We create a sentiment sensitive thesaurus that aligns different words that express the same sentiment in different domains. We use labeled data from multiple source domains and unlabeled data from source and target domains to represent the distribution of features. We use *lexical elements* (unigrams and bigrams of word lemma) and *sentiment elements* (rating information) to represent a user review. Next, for each lexical element we measure its relatedness to other lexical elements and group related lexical elements to create a sentiment sensitive thesaurus. The thesaurus captures the relatedness among lexical elements that appear in source and target domains based on the contexts in which the lexical elements appear (its distributional context). A distinctive aspect of our approach is that, in addition to the usual co-occurrence features typically used in characterizing a word's distributional context, we make use, where possible, of the sentiment label of a document: i.e. sentiment labels form part of our context features.

This is what makes the distributional thesaurus sentiment sensitive. Unlabeled data is cheaper to collect compared to labeled data and is often available in large quantities. The use of unlabeled data enables us to accurately estimate the distribution of words in source and target domains. The proposed method can learn from a large amount of unlabeled data to leverage a robust cross-domain sentiment classifier. In our proposed method, we use the automatically created thesaurus to *expand* feature vectors in a binary classifier at train and



test times by introducing related lexical elements from the thesaurus. We use L1 regularized logistic regression as the classification algorithm.

## **B) Comparison with sentiwordnet**

We evaluate our sentiment sensitive thesaurus to group words that express similar sentiments. However, manual evaluation of a large thesaurus is costly. Instead, we compare the created sentiment sensitive thesaurus against SentiWordNet <sup>[26]</sup>, a lexical database with polarity scores. SentiWordNet assigns each synset (a set of synonymous words for a particular sense of a word) in WordNet3 with three types of scores in the range [0, 1]: *objective*, *positive*, and *negative*. If words in a synset express a positive sentiment then the synset will be assigned a high positive score, whereas if the words in a synset express a negative sentiment, then the synset will be assigned a high negative score. If the words in a synset do not express any sentiment, then it will have a high objective score. SentiWordNet is created by automatically classifying the glosses associated with WordNet synsets using a set of eight ternary classifiers. It is freely available for research purposes<sup>4</sup>. We classify each non-objective (i.e. has a positive or a negative polarity score) word in SentiWordNet as positive, negative, or neutral as follows. If the degree of the positive polarity is greater than the degree of the negative polarity for a word, then it is classified as a positive word. If the degree of the negative polarity is greater than the positive polarity for a word, then it is classified as a negative word. If both the positive and negative polarity scores are equal, then it is classified as neutral. In SentiWordNet a particular word can have different polarity scores depending on its word sense. For example, the word *estimable* has an objective score of 1.0 (positive and negative scores of 0.0) for the sense “*may be computed or estimated*”, while the sense “*deserving of respect or high regard*” has a positive score of 0.75, negative score of 0.0 and an objective score of 0.25. Because the sentiment sensitive thesaurus does

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not have word sense information, it is not possible to know which sense of a word is listed in the thesaurus. Consequently, we classify a word to a particular class (positive, negative, or neutral) if at least one of the senses of the word can be classified to that class. After this classification, we have 18, 829 positive words, 21, 043 negative words, and 117, 125 neutral words. We first create a single sentiment sensitive thesaurus using the training data for the four domains in the benchmark

### **C) Related Work:**

Sentiment classification systems can be broadly categorized into single-domain <sup>[1], [2], [27]–[30]</sup> and cross domain <sup>[7], [8]</sup> classifiers based upon the domains from which they are trained on and subsequently applied to. On another axis, sentiment classifiers can be categorized depending on whether they classify sentiment at word level <sup>[31], [32]</sup>, sentence level <sup>[33]</sup>, or document level <sup>[1], [2]</sup>. Our method performs cross-domain sentiment classification at document level. In single-domain sentiment classification, a classifier is trained using labeled data annotated from the domain in which it will be applied. Turney <sup>[2]</sup> measures the co-occurrences between a word and a set of manually selected positive words (e.g. *good*, *nice*, *excellent*, etc.) and negative words (e.g. *bad*, *nasty*, *poor*, etc.) using point wise mutual information to compute the sentiment of a word. Kanayama and Nasukawa <sup>[29]</sup> proposed an approach to build a domain-oriented sentiment lexicon to identify the words that express a particular sentiment in a given domain. By construction, a domain specific lexicon considers sentiment orientation of words in a particular domain. Therefore, their method cannot be readily applied to classify sentiment in a different domain. Compared to single-domain sentiment classification, which has been studied extensively in previous work <sup>[3]</sup>, cross-domain sentiment classification has only recently received attention with the advancement in the field of domain adaptation <sup>[34]–[36]</sup>. Aue and Gammon <sup>[37]</sup> reports a number of



empirical tests on domain adaptation of sentiment classifiers. They use an ensemble of nine classifiers to train a sentiment classifier. However, most of these tests were unable to outperform a simple baseline classifier that is trained using all labeled data for all domains. They acknowledge the challenges involved

in cross-domain sentiment classification and suggest the possibilities of using unlabeled data to improve performance.

Blitzer et al. <sup>[7]</sup> propose the structural correspondence learning (SCL) algorithm to train a cross-domain sentiment classifier. SCL is motivated by the alternating structural optimization (ASO), a multi-task learning algorithm, proposed by Ando and Zhang <sup>[38]</sup>. Given labeled data from a source domain and unlabeled data from both source and target domains, SCL chooses a set of *pivot features* which occur.

Our proposed method falls under the semi-supervised domain adaptation category under this classification. Recently there has been some work on the theoretical aspects of domain adaptation <sup>[35], [36], [42]</sup>.

## IV PROBLEM STATEMENT

### A) Problem Statement:

We define a domain  $D$  as a class of entities in the world or a semantic concept. For example, different types of products such as books, DVDs, or automobiles are considered as different domains. Given a review written by a user on a product that belongs to a particular domain, the objective is to predict the sentiment expressed by the author in the review about the product. We limit ourselves to binary sentiment classification of entire reviews. We denote a source domain by  $D_{src}$  and a target domain by  $D_{tar}$ . The set of labeled instances from the source domain,  $L(D_{src})$ , contains pairs  $(t, c)$  where a review,  $t$ , is assigned a sentiment label,  $c$ . Here,  $c \in \{1, -1\}$ , and the sentiment labels  $+1$  and  $-1$  respectively denote positive and negative



sentiments. In addition to positive and negative sentiment reviews, there can also be *neutral* and *mixed* reviews in practical applications. If a review discusses both positive and negative aspects of a particular product, then such a review is considered as a mixed sentiment review. On the other hand, if a review does not contain neither positive nor negative sentiment regarding a particular product then it is considered as neutral. Although this paper only focuses on positive and negative sentiment reviews, it is not hard to extend the proposed method to address multi-category sentiment classification problems.

However, the proposed method is agnostic to the properties of the classifier and can be used to expand feature vectors for any binary classifier. As shown later in the experiments, L1 regularization enables us to select a small subset of features for the classifier. Our contributions in this work can be summarized as follows.

- We propose a fully automatic method to create a thesaurus that is sensitive to the sentiment of words expressed in different domains. We utilize both labeled and unlabeled data available for the source domains and unlabeled data from the target domain.
- We propose a method to use the created thesaurus to expand feature vectors at train and test times in a binary classifier.
- We compare the sentiment classification accuracy of our proposed method against numerous baselines and previously proposed cross-domain sentiment classification methods for both single source and multi-source adaptation settings.
- We study the ability of our method to accurately predict the polarity of words using SentiWordNet, a lexical resource in which each WordNet synset is associated with a polarity score.

## **B) Sentiment sensitive thesaurus**

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As we saw in our example in Section 3, a fundamental problem when applying a sentiment classifier trained on a particular domain to classify reviews on a different domain is that words (hence features) that appear in the reviews in the target domain do not always appear in the trained model. To overcome this feature mismatch problem, we construct a sentiment sensitive thesaurus that captures the relatedness of words as used in different domains. Next, we describe the procedure to construct our sentiment sensitive thesaurus. Given a labeled or an unlabeled review, we first split the review into individual sentences and conduct part-of-speech (POS) tagging and lemmatization using the RASP system <sup>[12]</sup>. Lemmatization is the process of normalizing the inflected forms of a word to its lemma. For example, both singular and plural versions of a noun are lemmatized to the same base form. Lemmatization reduces the feature sparseness and has shown to be effective in text classification tasks <sup>[13]</sup>. We represent a lexical or sentiment element  $u$  by a feature vector  $\mathbf{u}$ , where each lexical or sentiment element  $w$  that co-occurs with  $u$  in a review sentence contributes a feature to  $\mathbf{u}$ . Moreover, the value of the feature  $w$  in vector  $\mathbf{u}$  is denoted by  $f(\mathbf{u}, w)$ . The vector  $\mathbf{u}$  can be seen as a compact representation of the distribution of an element  $u$  over the set of elements that co-occur with  $u$  in the reviews. The Distributional hypothesis states that words that have similar distributions are semantically similar <sup>[16]</sup>. We compute  $f(\mathbf{u}, w)$  as the point wise mutual information between a lexical element  $u$  and a feature  $w$  as follows:

$$f(\mathbf{u}, w) = \log \left( \frac{\frac{c(u, w)}{N}}{\frac{\sum_{i=1}^n c(i, w)}{N} \times \frac{\sum_{j=1}^m c(u, j)}{N}} \right).$$

Here,  $c(u, w)$  denotes the number of review sentences in which a lexical element  $u$  and a feature  $w$  co-occur,  $n$  and  $m$  respectively denote the total number of lexical elements and the total number of features, and  $N = \sum_{i=1}^n \sum_{j=1}^m c(i, j)$ . Using point wise mutual information to



weight features has been shown to be useful in numerous tasks in natural language processing such as similarity measurement <sup>[17]</sup>, word classification <sup>[18]</sup>, and word clustering <sup>[19]</sup>. However, point wise mutual information is known to be biased towards infrequent elements and features. We follow the discounting approach proposed by Pantel & Ravichandran <sup>[18]</sup> to overcome this bias. Next, for two lexical or sentiment elements  $u$  and  $v$  (represented by feature vectors  $\mathbf{u}$  and  $\mathbf{v}$ , respectively), we compute the relatedness  $\tau(v, u)$  of the element  $v$  to the element  $u$  as follows:

$$\tau(v, u) = \frac{\sum_{w \in \{x | f(v, x) > 0\}} f(u, w)}{\sum_{w \in \{x | f(u, x) > 0\}} f(u, w)}.$$

The relatedness score  $\tau(v, u)$  can be interpreted as the proportion of pmi-weighted features of the element  $u$  that are shared with element  $v$ . Note that point wise mutual

information values can become negative in practice even after discounting for rare occurrences. To avoid considering negative point wise mutual information values, we only consider positive weights in Equation 2.

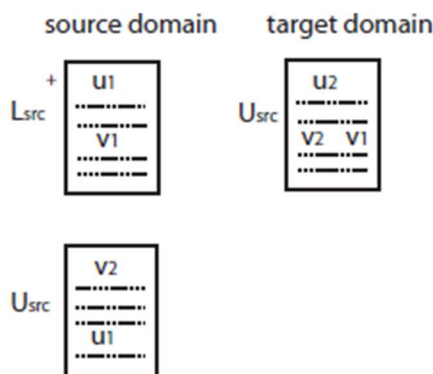
Note that relatedness is an asymmetric measure according to the definition given in Equation 2, and the relatedness  $\tau(v, u)$  of an element  $v$  to another element  $u$  is not necessarily equal to  $\tau(u, v)$ , the relatedness of  $u$  to  $v$ . In cross-domain sentiment classification the source and target domains are not symmetric. For example, consider the two domains shown in Table 1. Given the target domain (kitchen appliances) and the lexical element “energy saving”, we must identify that it is similar in sentiment (positive) to a source domain (books) lexical element such as “well researched” and expand “energy saving” by “well researched”, when we must classify a review in the target (kitchen appliances) domain. Conversely, let us assume that “energy

saving”also appears in the books domain (e.g. a book about ecological systems that attempt to minimize the use of energy) but “well researched” does not appear in the kitchen appliances domain. Under such circumstances, we must not expand “well researched” by “energy saving” when we must classify a target (books) domain using a model trained on the source (kitchen appliances) domain reviews.

The relatedness measure defined in Equation 2 can be further explained as the co-occurrences of  $u$  that can be recalled using  $v$  according to the co-occurrence retrieval framework proposed by Weeds and Weir <sup>[20]</sup>. In Section 6.3, we empirically compare the proposed relatedness measure with several other popular relatedness measures in a cross-domain sentiment classification task.

We use the relatedness measure defined in Equation 2 to construct a *sentiment sensitive* thesaurus in which, for each lexical element  $u$  we list up lexical elements  $v$  that co-occur with  $v$  (i.e.  $f(u, v) > 0$ ) in the descending order of the relatedness values  $\tau(v, u)$ .

For example, for the word *excellent* the sentiment sensitive thesaurus would list *awsome* and *delicious* as related words. In the remainder of the paper, we use the term *base entry* to refer to a lexical element  $u$  (e.g. *excellent* in the previous source domain target domain



**Fig. 1. Constructing feature vectors for two lexical elements**



In the figure Constructing feature vectors for two lexical elements  $u1$  and  $u2$  from a positive labeled source domain review  $Lsrc$ , two unlabeled reviews from source ( $Usrc$ ) and target ( $Utar$ ) domains. Vector  $u1$  contains the sentiment element  $v1 * P$  and the lexical elements  $v1$ ,  $v2$ . Vector  $u2$  contains lexical elements  $v1$  and  $v2$ . The relatedness,  $\tau(u1, u2)$ , between  $u1$  and  $u2$  is given by Equation 2. example), for which its related lexical elements  $v$  (e.g. *awsome* and *delicious* in the previous example) are listed in the thesaurus. Moreover, the related words  $v$  of  $u$  are referred to as the *neighbors* of  $u$ .

As shown graphically in Figure 1, relatedness values computed according to Equation 2 are sensitive to sentiment labels assigned to reviews in the source domain, because co-occurrences are computed over both lexical and sentiment elements extracted from reviews. This is an important fact that differentiates our sentiment sensitive thesaurus from other distributional thesauri which do not consider sentiment information. For example, let us assume that the feature vector representing the word *excellent* contains both the lexical element *cooking* (extracted from an unlabeled review) and the sentiment element *spicy\*P* (extracted from a positively labeled review).

When computing the relatedness between *excellent* and another word (e.g. *delicious*) using Equation 2, features created from both labeled and unlabeled reviews will be used, thereby making the relatedness scores sensitive to sentiment. Moreover, we only need to retain lexical elements in the sentiment sensitive thesaurus because when predicting the sentiment label for target reviews (at test time) we cannot generate sentiment elements from those (unlabeled) reviews, therefore we are not required to find expansion candidates for sentiment elements. However, we emphasize the fact that the relatedness values between the lexical elements listed in the sentiment sensitive thesaurus are computed using co-occurrences with both lexical and sentiment elements, and therefore the expansion candidates

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selected for the lexical elements in the target domain reviews are sensitive to sentiment labels assigned to reviews in the source domain. To construct the sentiment sensitive thesaurus, we must compute pair wise relatedness values using Equation 2 for numerous lexical elements. Moreover, to compute the point wise mutual information values in feature vectors, we must store the co-occurrence information between numerous lexical and sentiment elements. By using a sparse matrix format and approximate vector similarity computation techniques <sup>[21]</sup>, we can efficiently create a thesaurus from a large set of reviews. In particular, by using approximate vector similarity computation techniques we can avoid computing relatedness values between lexical elements that are likely to have very small relatedness scores thus are unlikely to become neighbors of a given base entry.

## **V PROS AND CONS**

### **A) Advantages**

- 1) sentiment-sensitive thesaurus accurately captures words that express similar sentiments.
- 2) Highest overall classification accuracy followed by the Reversed baseline

### **B) Limitations**

This proposed work will work on only dual domain for Multiple domains we need to work, which will be added in the future.

### **C) Applications**

- Online Shopping
- Opinion Mining
- Customer Review
- Product Improvement
- Movie Review
- Book Analysis

## **VI CONCLUSION**

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We surveyed a cross-domain sentiment classifier using an automatically extracted sentiment sensitive thesaurus. To overcome the feature mis-match problem in cross-domain sentiment classification, we studied labeled data from multiple source domains and unlabeled data from source and target domains to compute the relatedness of features and construct a sentiment sensitive thesaurus. We then use the created thesaurus to expand feature vectors during train and test times for a binary classifier. A relevant subset of the features is selected using L1 regularization. The proposed method significantly outperforms several baselines and reports results that are comparable with previously proposed cross-domain sentiment classification methods on a benchmark dataset. Moreover, our comparisons against the SentiWordNet show that the created sentiment-sensitive thesaurus accurately groups words that express similar sentiments. In future, we plan to generalize the proposed method to solve other types of domain adaptation tasks.

Yet the system needs to implemented we will implement it and compare the results with expected results.

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## **RELATIONSHIP BETWEEN ENVIRONMENTAL ATTITUDE AND ENVIRONMENTAL AWARENESS AMONG B.ED. STUDENTS OF DHARMAPURI DISTRICT**

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### **Introduction**

In olden days man lived in harmony with nature. As his numbers grew, man started disturbing the orderly balance of nature. Alone of all the creatures, he has sought to make over nature. He has destroyed selfishly forests killed animals and birds just for his own pleasure and drained swamps in order to make room for his crops. As if this weren't enough he started industries, invented vehicle and neglected to utilize them with proper care.

The result is that they create alarming health problems to the creatures on globe and to man himself. Air pollution, Water pollution have become a constant source of worry to human beings. Nothing can be imagined now about the hazards of pollution, we will encounter in future. To add to these circumstances, man has brought nuclear radiation of the worst type that destroys the living creatures without discrimination and produced indescribable havoc (Hiroshima and Nagasaki).

### **OBJECTIVES OF THE STUDY**

His main objective of the investigation is to study the relationship between environmental attitude and environmental



awareness of the B.Ed Students Dharmapuri district of Tamil Nadu. The specific objectives of the study are:

1. To study the environmental attitude of B.Ed Students of Dharmapuri district.

To determine whether there exists any significant difference in the Environmental Attitude of the sub samples based on:

- (a) Gender
- (b) Locale

To determine whether there exists any significant difference in the Environmental Awareness of the sub samples based on:

- (a) Gender
- (b) Locale

To study whether there is any relationship between environmental attitude and environmental awareness among B.Ed Students of Dharmapuri district.

## **HYPOTHESES OF THE STUDY**

The study has seven different hypotheses:

1. The B.Ed Students of Dharmapuri have average attitude towards Environment.
2. There will be no significant difference between male and female with regard to their Environmental Attitude.
3. There will be no significant difference between rural and urban pupils with regard to their Environmental Attitude.
4. B.Ed Students of Dharmapuri exhibit 'Moderate' Environmental Awareness.



5. There will be no significant difference between male and female with regard to their Environmental Awareness.
6. There will be no significant difference between rural and urban pupils with regard to their Environmental Awareness.
7. There will be significant relation between Environmental Attitude and Environmental Awareness among B.Ed Students of Dharmapuri district.

### **NEED AND SIGNIFICANCE OF THE STUDY**

Ultimate aim of the studies on environmental awareness is to formulate a responsible attitude towards the sustainable development of planet Earth, an appreciation of its beauty and an assumption of an environmental ethic. To fulfill this every school needs adequate arrangements for planning and implementing successful programmes of work and teaching, learning tasks. Every human being is a pan of nature and whatever action he does will have its own consequences. The children should be given a chance to understand, love and care "nature" even from their childhood.

The teacher is the best person to induce and inculcate a sense of responsibility among children about the environment, since children spend their considerable time only in school. So the process of introducing any such programme requires the involvement and participation more from the side of teachers than from students, administrators. As a result it is necessary to take appropriate measures to acknowledge and budding teachers knowledge on environmental matters. In the absence of environmentally resourceful teachers capable of inculcating real



awareness and responsible environmental behavior, it will only result in the failure of environmental process to meet its goals.

The researcher wishes to assess the environmental attitude and environmental awareness of student teachers. He is also interested to determine correlation if any existing between environmental attitude and environmental awareness. Dharmapuri District has many number of educational institutions is now facing alarming industrial and dyeing effluents hazards over its water resources.

## **THE SAMPLE FOR THE STUDY**

Sampling is fundamental in any form of research intending to draw a on for specific population. The selection of a proper sample governs the – and dependability of the results obtained. For the purpose of the study a sample size of 260 was selected the stratified random sampling method was for drawing samples. The present study being conducted on student teachers of Dharmapuri has considered the following factors while selecting the sample:

### **Rural – Urban location of the samples. Male and Female**

Taking into consideration the above mentioned factors an initial sample of 253 of Education colleges were drawn from four educational institutions of Dharmapuri district. The following sample colleges were randomly selected for the

1. Padmavathi college of Education, Harur.
2. E.R.K. college of Education, Papireddypatti.
3. Viswa Bharathi college of Education, Morapur.
4. Varavan Vadivelan college of Education, Dharmapuri.



**Table-1: Statistical Indices Relating to Environmental Attitude Scores of B.Ed Student (Total group and the sub-sample)**

Statistical Indices	Total Sample (N=253)	Gender Groups		Locale Groups	
		Male (N=119)	Female (N=134)	Urban (N=122)	Rural (N=125)
range	83	3	82	45	83
Mean	125.68	126.41	125.02	125.44	125.93
SD	13.86	14.18	13.50	13.24	14.51
Median	128	124	129	132	124
Skewness	-0.50	0.48	0.34	-0.56	-0.52

The data presented in Table-1 shows that as far as the Environmental Awareness is concerned, the group under study is a heterogeneous one, since the highest score obtained is 168 and the lowest score obtained is 85 out of a maximum of 175 and a minimum of 35. The mean of the environmental awareness scores of the total group under study is 125.68, with a standard deviation of 13.86.

The mean population value ( $M_{POP}$ ) will lie between 127.42 and 123.93 at 0.05 level; and between 129.83 and 122.98 at 0.01 level ( $SE_M$  for the total group is 0.89)

**Table-2: Classification of Total Sample into High, Average and Low Environmental Attitude Groups**

S.NO	Environmental Attitude Groups	Subjects	
		NO	%
1	High Environmental Attitude Groups (Above $M+\sigma$ , i.e., above 139)	46	15
2	Average Environmental attitude Groups (Between $M+\sigma$ and $M-\sigma$ , i.e., between 111 and 139)	170	70



3	Low Environmental Attitude Groups (Below $M + \sigma$ , i.e., below 111)	37	15
<b>Total</b>		<b>253</b>	<b>100</b>

Shows that only 15% of the B.Ed students under study possess 'High' Environmental Attitude. Majority of the students fall in the 'Average' (70%) and a smaller proportion (15%) fall in the 'Low' Environmental Attitude Group. The total number of students in the 'Average' and 'Low' Environmental Attitude groups comes above 80% (85% exactly). This shows that the B.Ed students of Dharmapuri, with the expression of a few, do not have a very high attitude about environment.

**Table-3: Comparison of the Environmental Attitude of the Sub-Samples Based on Gender and Locale**

Groups	Sub-samples	Statistical Indices			Critical Ratio
		N	M	SD	
Gender	Male	119	126.41	14.81	0.78*
	Female	134	125.02	13.50	
Locale	Rural	125	125.93	14.51	0.27
	Urban	128	125.44	13.24	

\*Not Significant at 0.01 level

As obvious from Table-3, the critical ratio obtained for the gender groups is not significant at 0.01 level, showing that males and females do not differ significantly in their environmental attitude ( $CR=0.78; p<0.01$ ). A close observation of the mean scores shows that males possess slightly better attitude of the environment compared to females. The above finding can be interpreted as due to the fact that males in the educational colleges of Tamilnadu get better opportunities to acquire

information about the environment from various sources and they get more exposure to environment compared to that of females.

**Table-4: Comparison of the Environmental Awareness of the Sub-Samples Based on Gender and Locale**

Groups	Sub-samples	Statistical Indices			Critical Ratio
		N	M	SD	
Gender	Male	119	68.89	8.9	1.28*
	Female	134	78.39	8.2	
Locale	Rural	125	75.93	8.8	1.14*
	Urban	128	69.35	8.4	

\*Not Significant at 0.01 level

The data and result presented in Table-4 shows that there is no significant difference between male and female in B.Ed classes with regard to their Environmental Awareness (CR=1.28;p<0.01). the critical ratio obtained (CR=1.14;p<0.01) on comparing the rural and urban subjects is not significant, indicating that the rural and urban sub-samples do not differ in their environmental awareness.

**Table-5: Relation between Environmental Attitude and Environmental Awareness of B.Ed Students (Total Group and the Sub-sample)**

Sample	N	R	Ser	$r_{POP}$	
				0.05 Level	0.01 Level
Total Group	253	0.060	0.064	-0.06	-0.10
				0.17	0.22
Male	119	0.061	0.093	-0.12	-0.18
				0.24	0.30





Female	134	0.057	0.088	-0.12	-0.17
				0.23	0.28
Rural	125	0.062	0.090	-0.11	-0.16
				0.24	0.29
Urban	128	0.061	0.090	-0.12	-0.17
				0.28	0.29

It is further revealed from table-5 that the value of the coefficient of correlation for the sub-samples based on gender and locale are also positive and very low.

## CONCLUSION

One of the most important contributions of this study is that it has come out with a standardized instruments 'The Environmental Attitude Scale' for rating the Environmental Attitude of B.Ed students. This tool can be further used widely in the fields of Psychology and Education, particularly in research studies related to Environmental Education. One of the major observations made from the results of the study is that the Environmental Attitude of the adults in the Education colleges of Dharmapuri is only average. The study revealed no significant difference in the environmental attitude among the sub samples based on gender and locale. This might be due to the fact that the district selected for the study does not confront with major environmental problems and issues and students in these particular areas, do not get more exposure to various sources of information. This situation implies that all possible steps should be taken to provide children, rural as well as urban and both males and females with sufficient exposure to different sources of



information regarding the protection, promotion and preservation of the environment.

In general poor Environmental Awareness is an indicator of poor environmental experience. The study therefore emphasizes the need for enriching the environmental experience of children at the early periods of their life for inculcating positive attitude towards the environment.

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