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C O N T E N T S

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Editorial……

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

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

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

Dr.K.Victor Babu
Editor-in-Chief

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A SURVEY ON THE ROLE OF ARTIFICIAL LIFE AND GENETIC ALGORITHM IN THE EVOLUTION OF PARTICLE SWARM OPTIMIZATION

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Abstract
A notion of optimization of nonlinear function is introduced utilizing Particle swarm optimization technique. The development of certain paradigms is discussed in brief and execution of one of the paradigm is described in detail .Paradigms' benchmark testing and its application containing nonlinear function optimization and neural network training are given. The association between particle swarm optimization .artificial life and genetic algorithm are explainedin detail.

Introduction:
The proposed paper discuss a method for optimization of continues non linear function which was revealed through reproduction of simplified social model and hence, the social image is conversed .With the help of algorithm stands with no metaphorical support .In the paper particle swarm optimization is described on the bases of its forerunner, shortly discussing it various stages involve in its growth from social simulation to optimizer and further in this paper a some paradigm that are engaged in the implementation of the theory. In the last one paradigm 's detailed explanation regarding its implementation is done ,along with result gain through the application and tests.

Particle swarm optimization has origin in two important methodologies based on artificial life(A-Life)and bird flock and swarm theory .It relates to the evolution based computation and knots to genetic algorithm as well as evolutionary programming ,which is evaluated in short in this paper .

Particle Swarm optimization is based on effortless concept and paradigm need few line code to implement it .The computation involve in it is low-priced in term of memory requisites and speed. The possibility of prior testing makes implementation efficient along with some flaws .In this paper we have discussed how we can use algorithm to train artificial neural network weight .Particle swarm optimization is demonstrated to execute better on genetic algorithm test functions .The performance of Schaffer's f6 is discussed in this paper.

Simulation of Social behavior: Scientists have the computer reproduction of the different types of analysis made by observing and doing deep study of the movement of the organism as an individual and as the group in a bird flock .Reynolds[8]and Heppner and Grenander [4] has given the simulation of the bird flock. Reynolds was deeply intrigue by the visual of the bird flocking composition ,whereas Hepper who was Zoologist by profession was having deep curiosity in determining the fundamental rules that facilitate large group of birds flock to synchronize, frequently altering direction rapidly , spreading and reforming etc hence both of them had the imminent that the general processes like those reproduced by cellular automata ,may inspire the unexpected group dynamics of birds social behavior. Both the models depends greatlyon manipulation of inter-entity distance which is the synchrony of the flocking behavior was consider to be function of birds to uphold an most favorable distance between themselves and their fellow companion hence we can assume that similar rule imposed on animal social behavior such as hers flock and humans. According to E O Wilson , biologist individual member of the school, in the period of search of food can gain advantage from the prior incident and discoveries of other individuals of the school .This benefit can be crucial , overshadowing the drawback of fight for food items ,at the time when the resources is randomly spread in patches and hence we can say that social distribution of information in-between consecrates gives an evolution based benefits: this theory severs the base to the development of the particle swarm optimization .

The major intention to develop the simulation was to represent societal behavior ,not similar to the fish school or bird flock .the major difference in between humans and fish or birds is that , fish or bird alter their physical movement to protect themselves from predator ,to search food and friend and for optimizing environment based factor example temperature etc whereas humans has the capacity to control physical movement as well as experiment based variables.

It is a main difference in terms of planning a computer reproduction ,for one basic reason :collision .There is possibility that two person can have similar attitude and faith without hitting with each other ,whereas in case of the birds they can't posses the same location without hitting each other .Thus it is logical to talk about human social behavior to plot the idea of transform into the bird or fish analogs of movement .It is steady with the basic Aristotel vision of qualitative as well as quantitative alteration in the motions .The humans not only posses the capacity to move into 3D space without collision but can also move in multi dimension space without collision .Humans have studied much earlier about how to evade collision .

3 Particle swarm optimization's Etiology : The algorithm starts as reproduction of simple social setting and the mediator was considered as collision free birds and the real goal was to graphically reproduce
in a very elegant way but an impulsive composition of bird flocking.

3.1 Matching the velocity of the closest neighbor: Convincing simulation was based on two supports 1.matching nearest neighbor velocity 2. Madness.

A inhabitants of birds was initialize in a random way with a location for each on torus pixel grid and with X and Y velocity.

At every iteration a loop in a program find out for every agent or birds, which additional agent was it close neighbor ,then allocate the agent's X and Y velocity to the agent in center. This easy rule generated a synchrony of motion.

Unluckily, the flock rapidly settles on unchangeable direction and then the introduction of stochastic

Variable termed as madness came into existence .At each iteration little modification was added to arbitrarily opted X and Y velocity. This has brought sufficient changes into the system to present the simulation despite of the fact that the change was totally synthetic.

3.2 Cornfield Vector:

Bird simulation brought by the Heppner had an attribute,due to which dynamic force came into simulation .According to him the birds flocked in the region "roost", which is basically a location on the pixel screen which magnetize them till they lastly grounded there and this prove quite useful in deleting the variable like "madness" since the simulation takes on a life of its ownand as a planof a roost was plot ,it arises another query into existence which appears more inspiring . According to the Heppner the birds were having a knowledge of roost location ,but when we are talking about the real world in that case, the birds could landon any tree or telephone wire as per their requirement which is mostly the place where, their food requirement are satisfied .If you would have done birds feeding then you know that with few minute large number of the birds came to know about the existence of the food and within few minutes a large numbers of birds gather there for eating food even though many birds among them do not have prior knowledge of that location despite of the fact, they manage to come and eat their food there ,this thing simply proves that there exist some sort of flock dynamics that allow members of the flock to take advantage of each other's knowledge as mention by Wilson

The distinction of the simulations describes a "cornfield vector"which is 2D vector with XY coordinate present on pixel plane .Every agent was programmed to find out its current position in term of equation:

$$Eval=\sqrt{(\text{present x} -100)2}+\sqrt{(\text{present y} -100)2}$$

So, at (100.100) position the value was zero.

Every agent "remembers"thebest value and the XY position that has resulted in that value.The value was termed as pbest whereas the positions can be termed as pbestx[] and pbesty[],where brackets denotes that it is array in which the number of element is equivalent to the number of agents .Every agents travel via pixel space calculating positions ,its velocities X and Y are regulated in a easy way .It could be explained on the bases of the its direction i.e. Either right or left

Case1 : if it is towards the right of its pbestx,in this case Xvelocity was adjust negative by a arbitrary amount of weight by a parameter of the system:vx[]=vx[]-rand()*p_increment.
Case2 : If it is towards the left side of the pbestx then,
rand()*p_increment is added to vx[],
In the same way on the bases of the agents location that is below or above the pbesty .Y velocities vy[] are regulated up and down.
Each agent of the flock is aware that, one member of the flock has got the global best position and corresponding value .This is gain by simple assignment of the array index of the agent with the best value to a variable termed as gbest ,in such a way that pbestx[gbest]was group best X position and similarly pbesty[gbest]is best Y position , which is accessible to flock members. Every member's vx[]andvy[] are attuned as below where system's poarameter is g_increament .
ifpresentx[l>pbestx[gbest] then vx[] = vx[] - rand() *g-increment
ifpresentx[] <pbestx[gbest] then vx[] = vx[] + rand() *g-increment
ifpresenty[] >pbesty[gbestl then vy[] = vy[] - rand() *g-increment
ifpresenty[l<pbesty[gbestl then vy[] = vy[] + rand() *g-increment
In simulation ,circle spot the (100,100)position onto the pixel field ,and agents are shown as colored pint ,Hence ,an spectator can observe the flock agent circle in the region till they get the simulated cornfield .The outcome shocking .When p_increment and g_increment are relative high ,flocks of birds appeared getting into cornfield aggressively .Within small number of iteration ,the whole flock typically ,15 to 30 members ,was observed to be crowd together inside the little circle adjoining the target whereas when the p_increament and g_increament are low, then in this case the flock spin around the goal practically moving towards it, back and forth moving out periodically along with the subgroup harmonized and lastly "landing" on the target.

3.3 Removing subsidiary variables:

After understanding the fact that the paradigm is capable of optimizing in easy,2D,lenear functions ,it becomes significant to find out the fractions of the paradigm that are essential for the particular job. In case author rapidly determine that the algorithm work nicely and seems practical, with no madness involvement in it, hence it was eliminated. After that it was observed that optimization really

occurs little quickly while closest neighbor velocity matching is eliminated, however the visual effects are altered.At this point the flock is termed as swarm ,which posses better capacity to search cornfield .Variables pbest ,gbest as well as their increments all are compulsory . Theoretically pbest look like autobiographical memory ,since every entity bear in mind its personal experience whereas the velocity alteration related to the pbestis is termed as "simple nostalgia"in which the entity is inclined to go back to the position that was mainly satisfying in the past whereas the gbest is theoretically equivalent to the discovered knowledge ,or a collective norm or standard ,which entity search to gain .During the simulation ,a large value p_increament in relation to g_increamentoutcomes in extreme stroll of lonely entity through the problem area, whereas opposite outcomes in the flock hurrying impulsively in the direction of local minima .Roughly similar values of two increments appears to come out the most efficient search of the problem domain.

3.4 Search related to multi -dimension:

Despite of the fact that the algorithm appears to extraordinarilymodel a flock looking for the cornfield ,primary optimization troubles which are faced are not linear or 2D .As, the author's interest was to model a behavior based on the society, which is multi-dimension and clashfree and hence, it appears like a simple step to alter presentx as well as presenty from 1D array to DXN matrices

Where,

D, denotes number of dimensions

N, denotes number of agents

A large number of experiments were executed, utilizing nonlinear multidimensional problem: regulating weight to instruct a feed forward multilayer perceptron neural network .There was author whose primary experiment was based on the training weigh for three -layer neural network resolving the excusive XOR problem. The requisites' of the problem are two input processing elements ,one output processing element and some hidden processing elements In addition of having links with the earlier layer ,the hidden processing elements as well as the output processing elements layer, each of them have bias processing elements connected with them. Hence 2,3,1neural network needs13 parameter optimization .The existing difficulty was resolved by letting the agents to fly through 13 dimensionalspace till an average sum square error per processing element criteria was solved .The performance of the algorithm on this problem was good. The 13 D XOR network was skilled, to an $e<0.05$ criterion with an average 30.7 iterations including 20 agents in it. Despite of the fact that longer path is taken by complex NN architecture the outcomes are quite better .

3.5 Distance based acceleration:

Algorithm works well but still there was something that was annoying and difficult to accept. All the velocity alteration was relied on crude inequality tests i.e. in case if presentx is greater thenbestx then ,take it small and if the presentx is smaller thenbestx then in this case take it big. When the algorithm was revised further by performing certain experiments on it ,it was found that there is a possibility to make it easy to understand and its performance could also be enhanced .Instead of performing test on the sign of inequality, on the bases of their difference the velocities were changed,per dimension from best location.

vx[][] = vx[][] + rand( )* p_increment*(pbtstx[][]- presentx[ ][ ])

3.6 Recent simplified version:

As it was understood that there is no proper method to find out with full accuracy that p increment or the g increment should be greater hence, these requisites are removed out of the algorithm .The stochastic factor is multiply by 2 in order get a mean of 1 ,as a result agents could overfly the goal in half the time .The performance of this version was much better than the earlier versions .Now the research will prove that is there any other most favorable value then the constant consider equivalent to 2 , weather the value should be developed for every problem or that value could be gained from the information of particular problem. The present particle swarm optimizer regulates the velocity by the given formula:

vx[]=vx[][]+
2 * rand() * (pbestx[][] - presentx[][]) +
2 * rand() * (pbestx[][gbest] – present[][])

4 Particles and Swarms

It has become quite obvious from the above discussion so far that all through the making of the paradigm easier, the actions of the population of the agent is more like swarm rather than the flock.The word swarm have the origin in literature .Especially.the use of the word by the author is on the bases of the paper presented by the Millonas [6] who has introduced various models for the use in the synthetic life and expressed five fundamental principle of swarm intelligence :

1) ProximityPrinciple : The population must be capable of carrying out easy space and time calculations **.**

2) QualityPrinciple: The population must be capable of responding to the all the quality factors present in the surroundings.

3)Diverse response principle: The population should avoid committing its actions beside extremely thin channels.

4)Stability principle: The population should avoid changing its formofbehavior ,with change in environment every time .

5) Adaptability principle: The population must be capable of changing its behavior form in case when it is worth the calculation price.

All the above five principle mention is adhered by the particle swarm optimization concepts and paradigms .Fundamentals to the paradigm is n-dimension space computation done over a sequence of time steps.The population responds to the excellence factors pbest and gbest .The allotment of the response among pbest and gbest guarantees a different types of response .The change in the form of behavior of the population takes place barely when gbest changes which shows its adheres to the principle of stability and we can say that the population is adaptive as it do not alter when gbest alters .

The wordparticle was opted as a conciliation .the discussion could be done on the fact that the members of the population are mass less and volume- less and hence can be define as "point" but considering the matter of the fact that the velocity as well as acceleration could be suitably apply on particle rather then point hence ,each is consider to have small mass and volume. According to reeves [7] particle system having cloud of ancient particle as model of disperse object for example cloud , fire and smoke and hence the author opts to characterize optimize concept is particle swarm.

5. Various test and prior applications of optimizer: The paradigm has been examine applying systematic standard tests and by monitoring its performance on the complicated application .The neural network application has proved that the particle swarm optimizer has capacity to instruct NN weights as efficient as the basic error backpropogation method .Above the sequence of ten training session, the particle swarm optimizer needs average 284 period.

Informal indication intrigue implies that the trained weight created by particle swarm for a while simplify from a set of training to set of testing, is superior then the solution that are created gradient descent such as set of data denoting electroencephalogram spike waveform and false positive, NNback propagation has gain 89 % accurate on the test data [2].Particle swarm optimizer is capable of training the network in order to gain 92% accurate.

When the comparison is done in between the particle swarm optimizer and standard generic algorithm in Davis [1] tremendously non linear function Schaffers f6.Llarge number of local optima is been featured by extremely irregular data surface hence non linear Schaffer f6 function is highly complicated to optimize .Particle swarm model got the global optimum each run and seems to estimate the output given for elementary genetic algorithm [1] in stipulations of the number of assessment necessary to get assured performance level.

6 Conclusions:

Particle swarm algorithm is very easy algorithm that appears to be successful for optimizing a large varietyof function. We see it as a middle –level appearance of A _life or biologically gain algorithm, engaging the space in nature among evolutionary search, which needs eons as well as neural processing that takes place on the ordermilliseconds .Social optimization takes place in the time frame of common knowledge, which is basically a common experience. it h s its knot with A- life,particle swarm optimization has clear knots with evolution based computation .Theoretically ,it appears to recline somewhere in between genetic algorithm and evolutionary programming .The particle swarm optimizer's adjusting feature towards pbest and gbestis theoretically seems alike to the crossover operation used by genetic algorithm. It utilizes the idea of fitness, as carry out by every evolutionary computation paradigm.

Exclusive to the idea of particle swarm optimization is flying possible solution through hyperspace, moving fast towards "better" solution where as other evolution based computation systems works straightly on the possible solution that are symbolized as location in the hyperspace .A large amount of the victory of the particle swarm appears to lie in the agents capacity to plunge past their aim .Various study disclose the fragile balance among conservative test of familiar region against chancy exploration of unknowns. It seems the present version of paradigm assigns trials close to optimal. Stochastic factor permits detailed search of space among the regions that seems to be comparatively good and the momentum effect gained by updating the existing velocities, instead of restoring them outputs of the overshooting or search of unidentified regions that belongs to problem domain.

The particle swarm optimization finds out solution to so many question such as why the social activities of animals are ubiquitous and the answer is due to its optimization and therefore provides us away to resolve the engineering optimizing based problem by modeling social behavior.

The motive behind its development is to keep it easy and robust which seems to be manage by them nicely and the algorithm is scripted in very less code and it needs only requirements of the problem and little parameter to resolve it .It would not be wrong to say that this algorithm fits ideally to the philosophical school that permits knowledge to appear instead of imposing it ,which imitate nature rather than attempting to controlling it, which makes things easy instead of making complex and hence, we can say that the nature has given us a system for processing information in a versatile manner .

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सेवा क्षेत्र में रोजगार की संभावनाए; छत्तीसगढ़ के संदर्भ में

शशिकला अतुलकर
उपसंचालक रोजगार
रायपुर, छत्तीसगढ़

ए .के .पांडे
प्रोफेसर अर्थशास्त्र विभाग
पंडित रविशंकर शुक्ल विश्वविद्यालय
रायपुर

शोध सार अर्थव्यवस्था का वह क्षेत्र जो सेवा से सम्बंधित कार्यो में लगा हुआ है सेवा क्षेत्र कहलाता है|. सेवा क्षेत्र में मुख्य रूप से शामिल होने वाली सेवाएं इस प्रकार हैं:- परिवहन, कूरियर, सूचना क्षेत्र की सेवाएं, प्रतिभूतियां, रियल एस्टेट,होटल एवं रेस्टोरेंट, वैज्ञानिक और तकनीकी सेवाएं, अपशिष्ट प्रबंधन, स्वास्थ्य कल्याण और सामाजिक सहायता; तथा कला, और मनोरंजन सेवाएं इत्यादि आतीं है। यह क्षेत्र भारतीय सकल घरेलू उत्पाद में करीब 60 फीसदी का योगदान देता है। इसे अर्थव्यवस्था के तीसरे क्षेत्र (Tertiary sector) के रूप में भी जाना जाता है। छत्तीसगढ़ में सेवा क्षेत्र की हिस्सेदारी सकल घरेलू उत्पाद में महत्वपूर्ण भूमिका निभाते हुए विगत वर्षों में निरंतर बढ़ रही है .इस क्षेत्र के अंतर्गत रियल इस्टेट, व्यापार, होटल एवं जलपान गृह, वित्तीय सेवाओं, लोक प्रशासन के क्षेत्र की सर्वाधिक भागीदारी है. इसके साथ ही संचार के क्षेत्र, लोक प्रशासन, भंडारण एवं यातायात [रेलवे के अतिरिक्त]के क्षेत्र में तेज वृद्धि हो रही है. राज्य में क्षेत्रवार वृद्धि स्थिर भाव अग्रिम अनुमान 2018- 19 कृषि 3.99, उद्योग 5.36, सेवा 6.93% अनुमानित है. वर्ष 2018- 19 में अखिल भारत के स्थिर भाव 2011 -12 में सकल घरेलू उत्पाद (बाजार मूल्य में) 7.2% वृद्धि जिसमें कृषि क्षेत्र का 3.8, उद्योग क्षेत्र में 7.8 एवं सेवा क्षेत्र में 7.3% वृद्धि (आधार मूल्य पर)अनुमानित है. पिछले 5 वर्षों की भांति उद्योग क्षेत्र का योगदान सकल राज्य घरेलू उत्पाद स्थित भाव [2011 -12] 2018- 19 में सर्वाधिक 47.17 होना अनुमानित है,वर्ष 2017 -18 की तुलना में 2018 -19 में सकल राज्य घरेलू उत्पाद (स्थिर-; भाव [2011 -12])में प्रतिशत वृद्धि सर्वाधिक संचार सेवाएं [12.25%]एवं न्यूनतम स्थावर संपदा , आवास गृह स्वामित्व तथा व्यावसायिक सेवाएं [1.34%]प्रक्षेत्र में संभावित है.

प्रस्तावना

हर अर्थव्यवस्था के तीन क्षेत्र होते हैं। जो इस प्रकार हैं: प्राथमिक क्षेत्र (जैसे खनन, कृषि और मछली पालन), द्वितीयक क्षेत्र (निर्माण) और तृतीयक क्षेत्र (सेवा क्षेत्र)।

विभिन्न देशों की अर्थव्यवस्थाएं के विकास के ट्रेंड का अध्ययन करने के बाद पता चलता है कि जो देश विकास की राह पर आगे बढ़ते हैं उन देशों की अर्थव्यस्थाएँ कृषि क्षेत्र से हटकर सेवा क्षेत्र की तरफ बढती हैं अर्थात उन देशों की अर्थव्यवस्था में कृषि क्षेत्र का योगदान बढ़ता जाता है और कृषि का घटता जाता है, भारत में मामले में भी यही तथ्य देखने को मिला है । 1951 में भारत की अर्थव्यवस्था में कृषि का योगदान लगभग 51% जो कि वर्तमान में केवल 14% के लगभग है ।

भारत के सेवा क्षेत्र ने हमेशा से ही देश की अर्थव्यवस्था में प्रमुख रूप से सेवा की है। सकल घरेलू उत्पाद (जीडीपी) में इसका योगदान लगभग 60 फीसदी तक है। इस संबंध में वित्तीय सेवाओं के क्षेत्र का एक महत्वपूर्ण योगदान रहा है।

उदारीकरण व विनियमतीकरण करने तथा उद्योगों को बढावा देने के लिए भारत सरकार ने सुधारों की शुरुआत की है। इसमें कोई शक नहीं है कि वर्तमान में भारत दुनिया के सबसे आकर्षक वाले पूंजी बाजारों में से एक है। हालांकि चुनौतियां भी हैं, लेकिन क्षेत्र का भविष्य उज्जवल प्रतीत होता है। प्रौद्योगिकी के आने से उद्योग के विकास में भी सहायता मिली है।

बीमा, पर्यटन, बैंकिंग, खुदरा, शिक्षा, और सामाजिक सेवाएं आदि जैसे सेवा क्षेत्र हिस्से होते हैं। रोजगार में लोग उत्पादकता, प्रभावशीलता, प्रदर्शन में सुधार क्षमता और स्थिरता बनाने के लिए अपने समय का प्रयोग संपति बनाने, संपति एकत्र करने तथा प्रकिया विनीयोजन के लिए करते हैं। सेवा उद्योग में कारोबार के लिए सेवाओं के प्रावधान के साथ- साथ अंतिम उपभोक्ता भी शामिल रहते हैं। सेवाओं को उत्पादक से एक ग्राहक तक पहुंचने में परिवहन, वितरण और माल की बिक्री शामिल हो सकती है जो एक मनोरंजन के रूप में भी एक सेवा का प्रावधान शामिल हो सकता है।

भारत में बैंकिंग परिसंपत्तियों का आकार वित्त वर्ष 2013 में 1.8 खरब अमेरिकी डॉलर का था और वित्त वर्ष 2025 तक इसके 28.5 खरब अमेरिकी डॉलर तक पहुंचने की उम्मीद है।

पेंशन फंड नियामक एवं विकास प्राधिकरण (पीएफआरडीए) अधिनियम 2013 के पारित होने के बाद, भारत में पेंशन बिजनेस पर CII-EY की एक संयुक्त रिपोर्ट के अनुसार, वित्त वर्ष 2013 के दौरान भारत में बीमा क्षेत्र के कुल बाजार का आकार 66.4 बिलियन अमेरिकी डॉलर का था और 2020 तक इसके 350-400 बिलियन अमेरिकी डॉलर के आंकड़े को पार करने की उम्मीद है। वर्तमान में भारत का बीमा बाजार16% प्रतिवर्ष की दर से बढ़ रहा है ।

आय और रोजगार में सेवाओं की हिस्सेदारी: 2014-15 में कुल सकल घरेलू उत्पाद (जीडीपी) (2004-05 के साधन लागत पर) में सेवा क्षेत्र की हिस्सेदारी 1990-91 के 42.7 फीसदी के मुकाबले बढकर 60 फीसदी हो गई थी। हालांकि रोजगार के मामले में हिस्सेदारी सिर्फ लगभग 25% रही।

भारत में सेवा क्षेत्र:

1. आजादी के बाद से सकल घरेलू उत्पाद में सेवा क्षेत्र की हिस्सेदारी लगभग दोगुनी हो गई है।
2. वित्त , बीमा और रियल एस्टेट के बाद व्यापार, होटल, रेस्तरां आदि सकल घरेलू उत्पाद में अधिकतम फीसदी का योगदान देते हैं।
3. टेली डेनसिटी (घनत्व) जो दूरसंचार के प्रसार का एक महत्वपूर्ण हिस्सा है, में मार्च 2007 के 18 फीसदी के मुकाबले दिसम्बर 2012 में 74% की फीसदी की वृद्धि हुई है।
4. सेवा क्षेत्र में प्रत्यक्ष विदेशी निवेश के प्रवाह (निर्माण सहित शीर्ष पांच क्षेत्र) में 37. 6 फीसदी की तेज गिरावट आई जो कुल कि अब 6.4 बिलियन डॉलर के स्तर पर आ गया है ।

मजबूत बैंकिंग और बीमा क्षेत्र के बूते पर भारत आज विश्व की सबसे आकर्षक अर्थव्यवस्थाओं में से एक है। KPMG-CII की एक संयुक्त रिपोर्ट के अनुसार, 2020 तक भारत के विश्व भर में पांचवां सबसे बड़ा बैंकिंग क्षेत्र बनने का अनुमान है। रिपोर्ट में यह भी उम्मीद जताई गई है कि बैंक ऋण के बेहतर माध्यम से मध्यम अवधि में 17 फीसदी की चक्रवृद्धि वार्षिक वृद्धि दर (सीएजीआर) से बढ़ने की उम्मीद है। देश में जीवन बीमा कंपनियों के उद्योग संगठन, जीवन बीमा परिषद ने भी वित्तीय सेवा क्षेत्र के लिए अगले कुछ वर्षों में 12-15 फीसदी की सीएजीआर (CAGR)का अनुमान व्यक्त किया है।

सेवा क्षेत्र बहुत सारे अवसरों के साथ एक अनछुए समुद्र की तरह है जिसे पूरी तरह से दोहन नहीं किया गया है। प्रमुख और संभावित सेवाओं में बाधाओं को दूर करने की लक्षित नीति के परिणामस्वरूप उच्च सेवाओं के विकास और सेवाओं के निर्यात के रूप में रोजगार के अधिक अवसर पैदा कर सकते हैं .जो बदले में अर्थव्यवस्था को उच्च विकास स्तर तक पहुंचाने में मदद कर सकते हैं।मेडिकल टूरिज्म सहित पर्यटनको बढ़ावा देने के लिए इस क्षेत्र में निवेश को बढ़ाया जा सकता है. पर्यटन क्षेत्र में पुनर्निवेश में इस्तेमाल होने वाले मुनाफे पर कर-मुक्त बांड और आयकर छूटकी सुविधा प्रदान की

जा सकती है,आयुर्वेद, योग और यूनानी में हमारी विशेषज्ञता का लाभ उठाकर जराचिकित्सा स्वास्थ्य सेवा को बढ़ावा देना; भारतीय अस्पतालों के लिए अंतर्राष्ट्रीय मान्यता प्राप्त करना; चिकित्सा पर्यटकों के टेलीमेडिसिन को बढ़ावा देने की योजनाएंसेवा क्षेत्र में रोजगार को बढ़ाने में सहायक सिद्ध हो सकती हैं. स्वच्छता के साथ रेलवे को अधिक पर्यटक अनुकूल बनाना, विदेशी आगंतुकों के लिए विशेष कोटा के साथ ई-बुकिंग; भारत में सभी टोलों में ई-भुगतान के लिए स्मार्ट कार्ड शुरू करना और पर्यटक वाहनों के लिए राष्ट्रीय परमिट; तटीय विनियमन क्षेत्र (सीआरजेड) मानदंडों को तय करते हुए वैश्विक मापदंडों पर विचार करना और विदेशों में भारतीय दूतावासों में भारत पर्यटन मेलों का आयोजन करना आदि सुविधाएं सेवा क्षेत्र में नियोजन को बढ़ावा देती है शिपिंग और पोर्ट सेवाएं सुविधाजनक बनाए जाने की आवश्यकता है. भारतीय जहाजों की उम्र बढ़ने और प्रतिस्थापित होने की आवश्यकता है; भारतीय खुदरा उद्योग के लिए दृष्टिकोण सकारात्मक बना हुआ है क्योंकि क्षेत्र में विभिन्न चुनौतियों का सामना करने के बावजूद भारत एक आकर्षक दीर्घकालिक खुदरा गंतव्य बना हुआ है। प्रौद्योगिकी और स्टार्टअप क्षेत्रों को R1000 करोड़ के आवंटन, रुपे डेबिट कार्ड के माध्यम से कैशलेस लेनदेन को बढ़ावा देने और ई-कॉमर्स की वृद्धि जैसी घोषणाएं इस क्षेत्र को एक गति दे सकती हैं। दूरसंचार क्षेत्र में, 4 जी की शुरूआत, गेम चेंजर हो सकती है और फाइबर ऑप्टिक कनेक्टिविटी को शामिल कर सकती है जो सरकार के सामाजिक क्षेत्र के कार्यक्रमों में मोबाइलों के अधिक उपयोग के साथ पहुंच और बैंडविड्थ में काफी वृद्धि करेगी, इस तेजी से बढ़ते क्षेत्र को और बढ़ावा दे सकती है। ।

तालिका 1 छत्तीसगढ़ : क्षेत्रवार अनुमान : स्थिर भाव (2011–12) (लाख रु.में)

समूह	2013-14	2014-15	2015-16	2016-17 (P)	2017-18 (Q)	2018-19 (A)
कृषि, वानिकी और मछली उद्योग	2927578	3121630	3092063	3639707	3615045	3759177
उद्योग (खनन, उत्खनन सहित)	8468830	8337415	8499275	9342096	9780631	10304984
सेवाएँ	5859043	6064311	6466758	6673618	7279069	7783788
सकल राज्य घेरलू उत्पाद मूल्य वर्धन (आधार मूल्य पर)	17255451	17523356	18058096	19655421	20684745	21847949
उत्पाद शुल्क (जोड़)–,सब्सिडी	1002494	1057987	1043865	1077184	1179120	1334025
सकल राज्य घेरलू उत्पाद (बाजार मूल्य में)	18257945	18581343	19101961	20732605	21853865	23181974

तालिका 2 छत्तीसगढ़ का सकल राज्य घरेलू उत्पाद स्थिर भाव (वर्ष 2011–12) पर क्षेत्रवार प्रतिशत् वृद्धि दर					
उद्योग समूह	2014-15	2015-16	2016-17 (P)	2017-18 (Q)	2018-19 (A)
कृषि, वानिकी और मछली उद्योग	6.63	-0.95	17.71	-0.68	3.99
उद्योग (खनन, उत्खनन सहित)	-1.55	1.94	9.92	4.69	5.36
सेवाएँ	3.50	6.64	3.20	9.07	6.93
सकल राज्य घरेलू उत्पाद मूल्य वर्धन (आधार मूल्य पर)	1.55	3.05	8.85	5.19	5.67
सकल राज्य घरेलू उत्पाद (बाजार मूल्य में)	1.77	2.80	8.54	5.41	6.08

सकल राज्य घरेलू उत्पाद के अग्रिम अनुमान तालिका 1 के अनुसार छत्तीसगढ़ में सेवा क्षेत्र की हिस्सेदारी सकल घरेलू उत्पाद में महत्वपूर्ण भूमिका निभाते हुए विगत वर्षों में निरंतर बढ़ रही है .इस क्षेत्र के अंतर्गत रियल इस्टेट, व्यापार, होटल एवं जलपान गृह, वित्तीय सेवाओं, लोक प्रशासन के क्षेत्र की सर्वाधिक भागीदारी है. इसके साथ ही संचार के क्षेत्र, लोक प्रशासन, भंडारण एवं यातायात [रेलवे के अतिरिक्त]के क्षेत्र में तेज वृद्धि हो रही है. तालिका 2 के अनुसार राज्य में क्षेत्रवार वृद्धि स्थिर भाव अग्रिम अनुमान 2018- 19 कृषि 3.99, उद्योग 5.36, सेवा 6.93% अनुमानित है. वर्ष 2018- 19 में अखिल भारत के स्थिर भाव 2011 -12 में सकल घरेलू उत्पाद (बाजार मूल्य में) 7.2% वृद्धि जिसमें कृषि क्षेत्र का 3.8, उद्योग क्षेत्र में 7.8 एवं सेवा क्षेत्र में 7.3% वृद्धि (आधार मूल्य पर)अनुमानित है. पिछले 5 वर्षों की भांति उद्योग क्षेत्र का योगदान सकल राज्य घरेलू उत्पाद स्थित भाव [2011 -12] 2018- 19 में सर्वाधिक 47.17 होना अनुमानित है,वर्ष 2017 -18 की तुलना में 2018 -19 में सकल राज्य घरेलू उत्पाद (स्थिर-; भाव [2011 -12])में प्रतिशत वृद्धि सर्वाधिक संचार सेवाएं [12.25%]एवं न्यूनतम स्थावर संपदा , आवास गृह स्वामित्व तथा व्यावसायिक सेवाएं [1.34%]प्रक्षेत्र में संभावित है.छत्तीसगढ़ में पर्यटन के क्षेत्र में रोजगार की संभावनाओं के साथ-साथ सेवा के प्रत्येक क्षेत्र में रोजगार की संभावनाएं बनी हुई है .रोजगार हेतु सेवा क्षेत्र को बढ़ावा दिया जाना चाहिए .इन क्षेत्रों में स्टार्टअप के साथ साथ स्वरोजगार योजना बनाई जानी चाहिए.

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9. एडीबी इकोनामिक वर्किंग पेपर सीरीज द सर्विस सेक्टर इन इंडिया नंबर 352 जून 2013.
10. सर्विस सेक्टर इन इंडिया परफॉर्मेंस एंड रिफॉर्म डॉक्टर संजय तिवारी इंटरनेशनल जर्नल आफ मल्टीडिसीप्लिनरी रिसर्च वॉल्यूम यीशु 7 नवंबर 2011 आईएसएसएन 223 15780
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12. ग्रोथ आफ सर्विस सेक्टर इन इंडिया आइक्यूएस आफ जर्नल ऑफ ह्यूमैनिटीज एंड सोशल साइंसेज वॉल्यूम 19

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SWAMI VIVEKANANDA'S PHILOSOPHICAL TEACHINGS AND HIS THOUGHTS AND IDEAS ON EDUCATION

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Abstract
Swami Vivekananda was one of the influential vedantist philosophical thinkers who first time took cultural legitimacy and historical pride of India to the world's intellectual communities. Being an Indian vedantist, he promoted feelings of universal brotherhood and religious tolerance among human beings and encouraged them to apprehend and appreciate diversities. The present study attempts to account Vivekananda's philosophical teachings, his thoughts and ideas on education. It includeshis basic philosophical principles, views on epistemology, ontology and axiology andhis thoughts on philosophy of education, concept of education, its objectives, curriculums, methods of teaching, medium of instruction, disciplines, teacher-students relationship, integration of East and West, and harmonised synthesis of religion and science. This is a retrospective study which uses descriptive-cum analytical methods. According to Swami Vivekananda ultimate reality and truth is the God and every human soul belongs to the God. Human body is subject to decay whereas soul is ultimate, immortal and eternal. After the individual death, his physical body gets decomposed whereas soul reunites to the Supreme Soul that is Brahma through the attainment of salvation. Swami Vivekananda believes in the constant change and transformation of society in which education plays a pivot role. He state dedication as the manifestation of perfection already in man and efforts should be taken to bring out the inherent qualities latent within individuals. He was a staunch critic to the prevailing system of education focused merely on the accumulation of information and voided its attempts to develop students' inherent qualities. He treated true education by which character is formed, strength of mind is increased, the intellect is explained, and by which one can stand on one's own feet. He laid emphasis on spiritual and material development of children through harmonised vedantic-spiritual education and material education. Self-education, spiritual upliftment with material prosperity, character building, life-making and nation-building are some of the major objectives of his teaching of educational philosophy. He urged to annihilate caste system and to promote women's education and education for weaker sections in the society.

Keywords: Philosophy, Epistemology, Western Humanism, Religion & Science, Man-making Education, Moral Development, Nation-building, Universal Brotherhood, Women's Education

Introduction

"Education is the most powerful weapon to change the world". The reason, it acts against different forms of social evils including gender inequality, caste and prejudices and also helps to reduce impoverished socio-economic and intellectual status of mankind and serves to arrive at sustainable development towards inclusive society. The National Knowledge Commission (2005) has laid accentuation on knowledge economy and thereby nation maintains its prosperity to global context. While giving emphasis upon education and its associated constituents, The Kothari Commission (1964-66) aptly stated that "the destiny of India is now being shaped in her classroom". Students are the demographic dividend, most economically productive and the future builder of the nation. But unfortunately the present system of education is seemed to be failed to meet the requirement for developing individuals unto full-fledged human beings. The present education is transformed into job oriented and merely focuses on training based economically function able skills while ignores other dimensions of physical, moral, spiritual and social development of individuals. Consequently, it happens to see instability and imbalance in individuals which neither helps to sustain life nor helps to adjust to milieu. For the reason being, different post-independent educational commissions recommended for the reconstruction of the curriculum and instructional methodology for effective teaching-learning process to attain at the overall development of a child's individual personality. In this context, the present study intended to study Vivekananda's philosophical teachings, his thoughts and ideas on education and find its relevance to revitalise the present system of education. It specifically focuses on Vivekananda's basic philosophical principles and his views on epistemology, ontology, axiology and his thoughts and ideas on education philosophy, concept of education, its objectives, curriculums, methods of teaching, medium of instruction, disciplines, teacher-students relationship, integration of East and West, and harmonious synthesis of religion and science.The educational philosophy of Swami Vivekananda was based on the Vedanta and Upanishad. Besides, his educational philosophy was of eclectically identical in nature which incorporated idealism, pragmatism and naturalism and to some aspects of existentialism. His philosophical teaching has potentiality to impact the foundation of modern education system of India. Swami Vivekananda who believed in continuity in the process of social change and considered education is the best means to bring positive changes in the existing society. He emphasised on both secular and moral education. Educational plan of Vivekananda was meant to create a new classless society with people of different backdrops and orientations where everybody will live in harmony through give and take metabolic process. According to him "Education is the manifestation of perfection; already in man". He propagated man-making education, character building and life making progressive and moral education. He was against the prevailing contemporary education which was imposed upon children to accumulate banks of information, pressuring mind to memorize for good marks were no way help to actualise inner self potentialities for all-round progressive development of a child personality. In his view that education is the true education "by which character is formed, strength of mind is increased, the intellect is explained, and by which one can stand on one's own feet". He rejected the "education which does not help the common mass of people to equip themselves for the struggle for life, which does not bring out strength of character,

a spirit of philanthropy, and the courage of a lion". Education is not an accumulation of information or a collection of facts that put into the minds of learners which creates dyspeptics and helps slowly to become machine, rather it should help to the development of all faculties to stand on one's own legs. Education provided in educational institutions merely facilitates an academic environment which fails to substantiate the complete life to equip with the competitive world. Vivekanada's vedantic concept of educational philosophy has solution to the problems of present education system which not only develops all-round attributes of an individual personality but also helps to self-actualization by means of man-making, character building and life making moral education.

Objectives of the Study

The present study attempts to account Vivekananda's philosophical teachings, his thoughts and ideas on education. It includes his basic philosophical principles, views on epistemology, ontology and axiology and his thoughts on philosophy of education, concept of education, its objectives, curriculums, methods of teaching, medium of instruction, disciplines, teacher-students relationship, integration of East and West, and harmonised synthesis of religion and science. Thus, the present study attempts to attend targets bearing a systematic analysis on the following sub-sets such as -

1. To study the basic principles of Vivekananda's philosophical teachings.
2. To analyse the philosophical teachings of Swami Vivekananda in relation to epistemology, ontology and axiology.
3. To study Vivekananda's basic philosophical principles of education.
4. To analyse Vivekananda's thoughts and ideas on education.

Methods

The present study is of qualitative in nature where pertinent literatures in the forms of articles, research papers, and books were being analysed and construed using descriptive and analytical methods.

Delimitation of the Study

The present study is delimited to study philosophical teachings of Swami Vivekananda and his thoughts and ideas relevance to education.

Swami Vivekananda in Indian Philosophy

Swami Vivekananda had played a remarkable role in reviving Indian school of philosophy especially Asthika (orthodox) of particularly even of Vedantic philosophy. His philosophical thought is known as Advaita Vedanta. Vivekananda's analysis of Indian philosophy especially Vedanta and Bhagvat Gita gave a way-out for the laying the foundation of modern Indian education and nation-building. Indian schools of philosophy are of basically two types, Asthika and Nastika. The group of schools believe in the authority and supremacy of Vedas are known as Asthika or Orthodox includes six different schools of philosophy namely, Mimansa, Vedanta, Sankhya, Yoga, Nyaya and Vaisesika and the group of schools do not faith in Vedas and rejected the authority and

supremacy of Vedas is termed as Nastika (Heterodox) includes three schools of philosophy namely Charvaka, Buddha and Jaina.

Swami Vivekananda's Philosophical Teachings

Swami Vivekananda's philosophy for life is the expression of his teachings of integrated schools of vedantic philosophy, yoga and Bhagvat Gita and the schools of western philosophy such as idealism, naturalism, pragmatism and western humanism. He was an ardent of vedantic philosophy believedin absolute and oneness of soul. He convinced creation without beginning and without an end. Soul never dies only leaves the visible material body to reunion with the Paramatman that is Brahman, one and absolute. He asseverated strength and expansion as the functional attributes of life while weakness, stagnant and contraction as death. Man is a divine manifestation and an integral part of supreme divine power, Brahman. Soul, god and matter are the three constituents of our universe and all are infinite and immortal in nature. Human being disciplines self intellectually, bodily and behaviourally. Each soul is the divine manifestation of Supreme god and connected to one another. He was the one who made attempts to make a symmetrical synthesis between science and spirituality for progressive development of human beings. He also balanced the co-existence of religion and science in one fold. According to him religion and science are complementary to each other instead of conflict and contradiction. Besides, a harmonious blend of ancient Indian philosophy and the modern western philosophy is an essential aspect of his teachings. He made an intermingling blend of spiritualism and western materialism. Side by side, though he was a Hindu monk but his religious ideal is to touch stand of diverse ethos through the ideal of universal religious tolerance and spiritual brotherhood. Swami Vivekananda had given due importance to both historical cultural legacy and the present scenario of ever changing society. He harmoniously blended the past with the present by restructuring the past contextual to the present. He constantly endured to unify the Hindu religion into single fold and acted as cultural ambassador to the west, represent Hindu religion as the world' major religion which has great potentialities to teach world for cultural upliftment and in solving complex problems of the world. The teachings of Swami Vivekananda urged for the establishment of universal religion which is developing universal sense of appreciation and respect for all religions of the world and urged not only for religious tolerance but also encouragement for love and imbibe the good traits of all religions. He used to encourage people to break the small well of religion they are live with and prompt them to live with the ideals of universal religion and its consciousness. Democratic outlook is another important ingredient of his philosophical teachings where besides urging complete freedom for self-actualization also laid emphasis on constant positive expansion and prosperity of society of which an individual is an inseparable part and thus he accentuated on the requirement of both the philosophies of individualism and socialism in balance. Swami Vivekananda was very optimistic to life and encouraged people to look at the bright and positive side of life which is possible through the inculcation of moral, ethical and spiritual values among people.

Swami Vivekananda's Philosophical Teachings with Reference to Epistemology, Ontology and Axiology

Vivekananda's View on Epistemology

Epistemologically, Swami Vivekananda based his vedantic school of philosophy, viewed knowledge of two types such as Para Vidhya and Apara Vidhya. Para Vidhya which is related to individual self, soul, spirit and God and spirituality that acquired through the teaching of vedangas, Upanishads, Puranas, logic and ethics etc. On the other hand, Apara Vidhya which deals with physical or material world of external in nature that acquired through the teaching of astrology, physics, mathematics, zoology, history, economics and ayurveda. Swami Vivekanada's philosophical knowledge of epistemology was based on transcendentalism. However, he also gave equal emphasis on needs of empiricism, rationalism and sensationalism for acquiring knowledge.

According to Swami Vivekananda knowledge is inherent in human being. Human mind is the only and greatest source of all knowledge. All knowledge comes not from outside rather it is manifested from inside. Mind is the infinite library and one can explore things in creative and productive manners through techniques of concentration and meditation. He believed that external things such as resourceful persons, books etc. only can help mind to concentrate on individual self to discover existing things or discovering new things or inventing science and technology. So, for discovering things one needs to unveil and bring out mind as mind is the source of all invention and discovery. Man is full of knowledge of everything under veil. Individuals just need to unveil this veil through self-education and self-realization by means of secular and moral education.

Vivekananda's View on Ontology

Ontology is the science deals with the analytical description of existing and non-existing reality of things around us. According to Swami Vivekananda God is the ultimate reality and truth and all human soul belongs to Him, Brahman who created the world in a beautiful shape perfect of living for mankind. Everything around us is subject to constant change and subject to decay. Nothing is permanent in this world. Man is the divine manifestation of God in different forms of human bodies which are also subjects to decay. However, human soul is immortal, eternal and everlasting. After the death of human body, soul leaves the body and reunites with the Paramatma to accomplish its end only after the attainment of Moksa or Salvation through good deeds and meditation.

Vivekananda's View on axiology

Swami Vivekananda was polymath and an illuminated personality of ethics. He is responsible for giving new shape and meaning to ethics. He developed new principles of morality and ethics. His theory and principle of ethics was based on the intrinsic purity and oneness of the God. In the prevailing time, most of the theories of morality and ethics were based on fear principle such as good boy and nice girl principle of Kohlberg, fear of God's punishment, fear of social acceptance and denial or rejection. However, he for the first time provided substantial reasons for why one needs to be good in conduct. Human being inherently pure and good in nature so, one should always struggle for purity of soul and good in conduct. He also advocated a perfect balanced ethical approach towards individual life and social life. He ascertained complete freedom to

individual for recognising and actualising self for all-round growth and development of individuality. Besides giving emphasis upon the individual growth and development, he equally placed emphasis on the growth and prosperity of society, of which individual is an integral part. He perceived individual as key contributor to the sustainable growth of a just society. Individuals get help and support to explore his individuality and creative self from his society. So, it is his or her duty to serve to the society he or she belongs. Besides, human being all are part of Paramatman and belongs to one true divine self, so, one should serve people around. Swami Vivekananda laid emphasis on his spiritual Guru, Ramakrishna's idea that is "Jibe prem kore jei jon, sei jon sebichhe ishwar" (A person who serves humanity, serves God)in order to spread the feelings of humanity and love among people.

Swami Vivekananda's Philosophy of Education

Educational philosophy of Swami Vivekananda is a synthesized expression of ancient Vedantic philosophy and the philosophy of Western material sciences. He made a harmonized progressive educational philosophy taking consideration of both eastern and western schools of philosophy for better realization of self-potentialities and character building and life-making. His philosophy is an integral comprises of western schools of idealism, naturalism and pragmatism along with the Indian ancient Vedantic philosophy. Being an idealistic thinker, he emphasised on the attainment of most uphold objective of education that are truth, beauty and goodness. Self-realization, self-actualization, character building, education for mind, education for self, nature and god are given more emphasis and urged for its accomplishments. Being a naturalistic thinker, he urged for education in the companion with the nature. Child should be given complete freedom in the process of self-actualization and character-building and let him or her free exposure to nature. Nothing should be imposed from outside on a child to learn rather should be helped by means of guidance to manifest what he or she has within self. Being an ardent advocate of pragmatic philosophy, he emphasised on the things having immediate impact bearing outcome. He gave utmost emphasis on the teaching of science, technology, commerce and so on for material pursuit and prosperity. Lastly, being an Indian and Vedantic ardent advocate, he structured Indian ancient schools of philosophy and propagated the Vedantic school of philosophy and Yoga in India and to the West. He emphasised on character-building, life making and spiritual education to all sections of the society. He intended to restore Vedic system of education to revitalised the existing system of education..

Vivekananda's Principles of education

Educational philosophy of Swami Vivekananda was based on the Vedantic schools of philosophy, Yoga and Bhagvat Gita. Besides, his educational philosophy also based on some selected western schools of philosophy such as idealism, naturalism, pragmatism and to some extent touching the ingredients of existentialism and transcendentalism. According to him education is meant to all-round development of an individual personality includes mental, physical, moral and spiritual and social developments. It develops self-confidence, self-reliance, character and ethical aspects of individual life. He stated education "by which character is formed, strength of mind is increased, the

intellect is explained, and by which one can stand on one's own feet" is the true sense of education. He said brahmacharya or celibacy is necessary for acquiring knowledge. He characterised a structured curriculum for education which promotes both spiritual and material spirit amongst children and supports a child-centred education. According to him mind is the source of all knowledge. It is the greatest library to individual. According to Swami Vivekananda everything is already there in individuals under veil and has to be manifested by removing that veil where teacher has a role to play out. External things only help individuals to study their mind through concentration and meditation. Education promotes complete freedom, occurs in natural settings with the companion of nature and uses heuristic method to help learners to self-actualization and character building is an ideal education. He asserted mother tongue as to be used for teaching-learning process. He urged for common language at national level for educating students and to unite Indian ethos in a single fold and for that reason, he appreciated the greatness of Sanskrit language and urged for its use as common language to all as it is the source of most of Indian languages and treasure of ancient Indian pride and cultural heritages. Besides, he also laid emphasis on education for all with special attention to women's education and education for weaker section of the society. He believed education is the best means to accomplish societal progress through realizing individual potentialities and character building. So, education for the masses and women's education should be promoted for the development of an enlightened society.

Vivekananda's Thoughts and Ideas on Education

True Education

Swami Vivekananda was against the contemporary system of education which was mechanical and heartless futile one compelling and conditioning to dose and install information into the brains of students by means of memorization and rote learning which is not desirable and simpatico to develop all-round personality of an individual child. Rather, it creates undesirable behaviour changes leading to the deterioration of inherent divinity in human beings. In Swami Vivekananda's own words "Education is not the amount of information that is put into your brain and runs riot there, undigested all your life". Being an ardent of Vedas, he believes that an individual child is a divine manifestation inherent infinite cognitive consciousness and cognizance in latent form under a thick veil of curtail where an educated and enlightened one needs to bump off this veil to get expression of such divine cognizance inherent in a child instead of giving doses of huge information to become mind a mechanical device. He stated educationas"the manifestation of perfection already reached man". He perceived true education always alleviates the process of "life-building, man making, character making and assimilation of ideas".

Aims of Education

Being a polymath in education, Vivekananda urged for all-round progressive development of an individual personality through the manifestation of perfection of inherent divine latent cognizance and potentialities by eliminating one's ego of supremacy, conceit and egocentric thinking, ignorance and all sorts of false and delusive identifications by means of practicing yoga and meditation. According to him that

'education by which character is formed, strength of mind is increased, the intellect is expanded and by which one can stand on one's own feet' is suppose to accomplish. He wanted to develop all faculties of an individual child by means of integrated balanced development of head (intellectuality), heart (ethics and morality) and hand (function able skills) as to some extent dimensionally identical of Bloom's scheme (1965) of educational objectives of cognitive, affective and psychomotor respectively. However, principal aims of education as urged by Swami Vivekananda may be presented as follows-

Manifestation of the Perfection

In his view, a child is a divine manifestation and full of latent cognizance of all kinds (e.g. material and spiritual).So, the prime aim of education should be to assist a learner or child to understand inner self so that he or she can unveil latent talents and potentialities and manifest perfection. Through the modification and elimination of undesirable natural instincts and sustenance of desirable instincts, a divine personality can be developed. He suggested yoga and meditation to develop better human personality.

Physical and Intellectual Development

Swami Vivekananda had accentuated upon the requirement of pragmatic way of understanding the significance of nurturing an intellectual mind and sustenance of healthy physical body. For judicious and rational utilization of physical and non-physical resources one needs to develop a progressive mind. Besides he also laid emphasis on the physical development of a child. He believed that a healthy mind resides in a healthy body. In this way he incorporated the need of physical development with intellectual development.

Moral and Spiritual Development

Swami Vivekananda wanted to develop a balanced personality of a child and for the reason being, he had not only given emphasis on the physical and intellectual development of a child but he also urged strongly for inculcation of moral and ethical values in order to make child to have strong sense of intrinsic value and moral conduct. Education should guide to develop spirituality among students which leads to develop a spirit of fellow-feelings, universal brotherhood and tolerance to people with different ethos and backgrounds.

Social Development

Swami Vivekananda has accentuated on social developmental aspects of learners. Children immediate after birth become an inseparable part of a society. They have innumerable things to learn and have to shoulder responsibility to assist for the development and sustenance of the society and its people. So education should intend to develop strong sense of social feelings. It should enable them to develop ability to adapt and accommodate with variable milieus and encourage learners to face social problems and challenges and dare to resolve them effectively.

Assimilation and Generation of Ideas

In view of Swami Vivekananda, education should not intended to meant to install cooked or ready-made information rather it should attempt to help individuals to assimilate ideas and thoughts about self, god and nature and encourage for noble deed and create innovation.

Self-Efficacy and Self-Reliance

Along with the teaching of spiritual education, Swami Vivekananda had also given emphasis upon the vocational aspect of education. Besides teaching of philosophy, literature and ethical education, the teaching of skill developing subjects are also given emphasis to enable pupils to become self-reliance and stand on own legs. Education should prepare students for the world of here and hereafter through material pursuits and spiritual upliftments and for the reason being, he urged for the inclusion of disciplines of both Para-Vidhya and Apara Vidhya. Education must help students to become economically productive and resourceful to society. Later on, Indian educational committee that was Iswarbhaipatel Committee in 1977 also recommended for education for Socially Useful Productive Work (SUPW) and started imparting vocational aspects of education to students.

Character Building

According to the teaching Swami Vivekananda, character building is one of the most important educational objectives that educators strive to accomplish. In his view 'the character of any man is but the aggregate of his tendencies, the sum total of the bent of his Mind'. It is the expression of individuals' intellectual thoughts, ideas and action. For the development of character, he recognised the importance of cognition formation and its operation. He also asserted the roles played by individual self, persons with whom he or she interacts and the environmental milieu resides therein in the development of personality. Environment in which an individual is brought out has significant impact on personality development. If environment is good, then his or her intellectual thoughts will also be good and will have tendency to do good work and eventually will manifest good kind of acceptable character.

Education for Man-making

He wanted education to be a man-making process which helps to develop a deep consciousness of one's own worth, value, dignity, strength, weakness and moral obligation to people and society living with and therein. It not merely assists individuals to all-round development through self-realization the latent perfection but also leads society to grow into prosperity with ever-changing world.

Development of Universal Brotherhood and Tolerance

Swami Vivekananda has realised the essence of unity in diversity for mankind. He urged people to approach, understand, appreciate and assimilate ideas, thoughts and anecdotal stories and experiences of people with diverse socio-cultural and ethical backgrounds across the lands. Education should nurture and flourish an impregnable feeling of universal brotherhood and tolerance to diversity in terms of religion, region, culture, ethics and morality among learners.

Nation-building through Educating Each and Every Child

Nation-building is one of the principal drafted educational objectives of Swami Vivekananda. He had strong faith in the strength of education to provide solution to the problems and challenges of a nation in ever changing world. So, education should be reached to each and every so that children can be developed intellectually, physically, morally and spiritually and socially. In his own words Swami Vivekananda asserted 'A

nation is advanced in proportion to education and intelligence spread among the masses.' And as of the reason, he emphasized on accessibility of education to common masses. He rightly said "if the mountain does not come to Mohammed, Mohammed must go to the mountain". So, those who cannot effort to access to education then education must be reached out to them.

Nature of Curriculum

Swami Vivekananda emphasized on both types of education namely, Para-Vidhya and Apara-Vidhya for spiritual as well as material pursuits. He laid emphasison self-realization, character-building and life making through moral education and through the study of science and industry based subjects. Para-Vidhya related to the spiritual education helping in character building, life making and spiritually uplift while Apara-Vidhya related to the material education meant for material pursuits. Being a man of international icon he realised the essence and significance of subjects of material pursuits and prosperity along with the spiritual education. Besides, he urged for the curriculum suitable for inclusive system of education. His aim of education is for over-all development of child's progressive personality through the manifestation of the innate potentialities and qualities, so different disciplines of Para-Vidhya such as. vedangas, Upanishads, Puranas, logic and ethics etc. and Apara-Vidhya such as astrology, physics, mathematics, zoology, history, economics and ayurveda should be properly constructed for the spiritual upliftment and material prosperity of an individual.

Methods of Teaching

Swami Vivekanada's philosophy of education is the outcome of his analytical and interpretative approach to ancient Indian Vedantic School of philosophy and the critical appraisal of the contemporary education. He rejected the present system of education imposed from outside upon the students and compel them to cram the instructed knowledge leads to mental stress. There is a complete process of quality education in Vedic system of education. In Vedic philosophy, hearing is the most important step in the process of education and after hearing the instructed information students are supposed to think upon it,to do meditation and then to realise for cognitive development and to find relevance to life for character-building and life making. However, teacher should have approach of love while giving instruction to students. Being an advocate of integrated philosophy he urged all those methods of teaching which help teachers to come down to the level of students and assist them for their self-actualization and character-building. The teaching method should be student-centred. Amongst his offered methods, yoga, meditation, lecture method, discussion method, constructive debate, heuristic or enquiry based learning, self-study, question-answer technique and illustration and so on are some important instructional methods to educate students.

Medium of Education

According to Vivekananda medium of instruction plays a key role in the attainment of set objectives. Swami Vivekananda was a true advocate of nationalism and so, like R.N. Tagore he also gave emphasis upon mother tongue for educating children in schools. Besides, he also urged for common language in order to keep the nation to be united. He proposed Sanskrit as common language to all Indian. He appreciated the virtue and cultural heritage of Sanskrit language and considered it as the source of most of the Indian languages and act as a great repository of Indian past pride, culture, historical

legacy and philosophical knowledge of various kinds of Indian ethos. Sanskrit language is the best representation of Indian past heritage of religious, spiritual, cultural and social in nature. However, he also encouraged to learn other languages of the world to enrich self for life-making. He urged the necessity of English especially for mastery Western science and technology.

Nature of Discipline

Education and discipline are indistinguishable and go parallel for attaining the defined targets. Discipline is an important virtue of Vedantic system of education. It is an important doorstep for success in life. During the Vedic system of education, the pupils had to live with Guru at Guru's home and had a very cordial with obedience and submission kinds of relationship of students with their Guru where students were totally under the control of Guru and Guru used share valuable stories and teach philosophy and religious education along with numeric and astrology. Swami Vivekananda took a new stand and advocated an emancipator kind of self discipline which offers complete freedom with self control. He promoted discipline for both teacher and student where teacher should discharge his or her responsibility with sincerity, love, affection and passion while students should be disciplined mentality, cognitively, intellectually, behaviourally, spiritually and physically for their own cause. In this way, Swami Vivekananda urged disciplines for mind, body and soul for manifesting good ideas or thoughts, ethics and good deeds. He believed in students' centred discipline where students are supposed to be given complete freedom to realised their potentialities in the companion of nature and so that, they able to concentrate mind through self control and detachment from the worldliness. Teachers merely act as facilitator and help to unveil students' inner self for all-round development of personality.

Place of children

In Vivekanada's educational philosophy, child is given central position around which everything evolves. Child is the master of own self. Child is the greatest library. The whole system of Vivekanada's educational scheme is of child-centred in nature. Right from formulating objectives, instructional designed programmes and employed transactional methods to techniques are planed and organised with accordance to the innate inner potentialities of students for their manifestation. Child himself attempts for inner self realization and actualization for all-round progressive development of personality while teacher and other stockholders should endeavour to polish off all the possible detriments and barriers on his way of progressive development.

Place of Teacher

Swami Vivekananda overwhelmingly laid emphasis upon students. All systems and processes involved in educational institution should be with accordance to the needs and requirement of students. He considered a teacher as facilitator and friend who with great affection guides students at the time when he or she requires. It is not important that how much a teacher is knowledgeable and qualified rather important is his or her ability to understand the nature, need and retardation of learners and help them by bringing self to the level of students. Teachers must have understand learners of different ethos and extend helping hands. Teacher should not think himself or herselfas dictator in the class and should not try to subjugate students by any means. Swami Vivekananda said "no one can teach anybody. The teacher spoils everything by thinking he is teaching". A student

teaches self. Teacher only can help students to move forward and remove all impediments as all knowledge come from the inner self of a student. However, teachers always try to develop and promote love and positive thinking amongst students and encourage them to explore inner potentialities through concentration and meditation to develop good character with spiritually uplifted and materially prosperous. Vivekananda said that "the only true teacher is he who can immediately come down to the level of the student, and transfer his soul to the student's soul and see through the student's eyes and hear through his ears and understand through his mind. Such a teacher can really teach and none else".

Types of Education

Physical education

Another interest thing of Vivekanada's educational philosophy is that he emphasised on proper growth and development of mind and the body. For accomplishing the objective of character development, life making and self realization, it is necessary for students to have knowledge of physical education and have to go through the physical education for training body and mind to become stronger. Without accomplishing physical health and strong mind, the target of education cannot be realised in practical. Vivekananda while giving emphasis upon physical education said that, "you will be nearer to Heaven through football than through the study of Gita. You will understand Gita better by your biceps, your muscles a little stronger. You will understand the Upanishads better and the glory of the Atman, when your body stands firm on your feet and you feel yourself as a man".

Moral and Religious Education

Vivekananda said, "religion is the innermost core of education. Religion is like the rice and everything else, is like the curries. Taking only curries causes indigestion and so is the case with taking rice alone". He urged for propagation of universalism by eliminating the narrow walls in between different religions and encouraged to appreciate and embrace the essences of different world's religions by stating a thought-provoking story of a frog at Parliament of religions on September15, 1893 who lived in a small well for long, he was born and brought up there and used to think that nothing is bigger than that in this world. He concluded the story "I am a Hindu. I am sitting in my own little well and thinking that the whole world is my little well. The Christian sits in his little well and thinks the whole world is his well. The Mohammedan sits in his little well and thinks that is the whole world". He taught the lesson that no one religion is greater than to other one. Instead of ignorance and rejection of other religion, one should develop a sense of religious tolerance and a sense of appreciation and acceptance of the essences of all religion. In his words "religion is the manifestation of divinity already in man".

Hindu religion is one of the most diverse regions of the world which well known for its flexibility and universal acceptance and tolerance of the world's diverse religions. It is also quite notable for producing intellects or saints who experienced human being as an integral of the ultimate one soul, Brahma besides emphasizing the spiritual upliftment. They treated religion as the science of consciousness. About India, Swami Vivekananda asserted "(India) where stood the earliest cradle of ethics, arts, sciences, and literature,

and the integrity of whose sons and the virtue of whose daughters have been sung by all travelers".

Self-Education

It is another important objective of Vivekanada's teaching of educational philosophy. Swami Vivekananda viewed an individual as the treasure of all knowledge of the universe. All knowledge is already being there within individual under veil. So, endeavour should be made to enable an individual to explore his or her latent inherent potentiality and helps to manifest them intellectually through spirituality and material pursuit with the help of self education. It is the comprehensive understanding of individual inner soul to manifest what is being already there within self. Education for self awareness, self-realization and self-actualization is termed as self education. It helps student to actualize their potentiality to become an ideal self. Besides, it also helps student to comprehend the milieu therein he or she lives and to act upon effectively. It helps to develop self identity through realising inner self in the laps of nature.

Women's Education

Swami Vivekananda observed Indian women as motherhood scarify their lives for family pursuit who are often denied their basic rights. Swami Vivekananda laid emphasis upon education of women and reasoned it out for progressive development of both man and women. In his words "The men and the women are the two wheels of the society. If one of the two falls defective, the society cannot make progress. Hence we need education for the females as we need for the males". He considered women as the founding stone of family and the main drive to sustain a good and happy life. But unfortunately it happened to see that women education is not given due important. He convinced female illiteracy leads to decelerate the actual pace of progress in a society. He viewed men and women are the wings of a bird and for the flying both wings should be healthy and strong. The dream of social progress cannot be accomplished without giving adequate provision to female to develop themselves through the education. He encouraged women for acquiring education to be fearless and strong with self identity and social dignity. Status and condition of women should be upgraded through education to restore the ancient Indian pride and heritage. At present, there is discrepancy of literacy rate amongst male and female that is82.14% and 65.46%respectively which reflects unequal social status for womenin the society(Census, 2011).

Education for a Weaker Section of Society

Swami Vivekananda was one of the greatest sons of mother India who endured against the prevailing caste system and the threads of untouchability. Heopenedway out to Sudras for their socio-economic development through educational and spiritual upliftment. At times, Upanishad is merely meant and preserved to sages who can to access for reading and understanding solely in forest or mountain. It was not accessible to common people. Swami Vivekananda himself took initiative by opposing untouchability and allowing them to read as well as listen to the Upanishads and allow them to enter in monk and staywith the life of Brahmacharya. Hepropagated the message of Upanishads among common people. Besides, he also argued for social development through education and for that he opened Ashrams for common people toaccess education of religious and science. Smriti, one of the inseparable parts of Upanishads upholds an article of prohibition of recitation of Veda at Sudra's residential areas which Swami

Vivekananda annihilated by breaking the traditional dogmatic believes and made it accessible to all common people irrespective of their positions in the delineated caste hierarchical system which shows religious equity and unity amongst believers and practitioners of Hindu religion leads subsequently to the accomplishment of religious unification. He laid emphasis upon his teaching of education for weaker, individual freedom, equality, social welfare and inculcating a sense as well as feeling of religious brotherhood among common people.

Swami Vivekananda's Attempt to Bridge between the East and West

He is well known for his responsibility of revitalizing the Indian ancient cultural heritage of Vedic philosophy in India and also for introducing the teaching of Vedantic philosophy and Yoga to the West. Besides, hegave emphasis on the teaching of spiritual education to common masses. Heequally realised the essence of teaching western education to Indians. His efforts caused the Vedantic philosophy for the first time a requirement to the Western society. He made a perfect blend of Easter culturally enriched ancient philosophy for spiritual upliftment and modern science and technology based education for material pursuits. He for the first time unearthed the Indian ancient heritage from the space of isolation and exhibit to the world as self enriched identity of having potentialities to guide people of the world in the moment of crisis and challenge. He not only adopted the Western concept of Humanism especially individual rights and freedom, social equality, justice and women empowerment but also propagated Indian ethos for better identity of Indian pride. He took a voyage to eradicate the misconception of the West regarding Hindu religion and its multifaceted rituals and practices and propagated priceless Vedic texts to the people of the west. He believed in the religion of peace and its propagation to all humanity. Being conscious of Vedantic teaching, in 1893 he gave his historic preach in the parliament of world religion and bore on the shinning cultural and philosophical heritages of India. He gave the concept of universal religion to promote peace by binding all human being through the fold of universal brotherhood. He cleared all the misconception of the West regarding Hindu religion and enlights with the actuality of the Indian legacy and its potentiality to take responsibility for the development of world's culture. On the other hand, he also laid emphasis on the requirement of modern science and technology based education for material pursuit and Indian ethos along with disseminating spiritual character building and life making education. He introduced the teachings of Vedantic schools of philosophy and Yoga to the West for their spiritual upliftment.

Swami Vivekananda's a Perfect Synthesis of Religion and Science and the Concept of Universal Religion

Swami Vivekanandagave a new way-out to the people for understanding the religion tosustain peace across the world. One of the most important contributions of Swami Vivekananda to the present world is his deep interpretation and analysis of religion as a universal experience of transcendent reality common to all humanity. He considered religion as science itself and interpreted as 'science of consciousness's'. He propagated the concept of universal religion common to all mankind which is completely free from all kinds of superstition, dogmatic believe, orthodox, priestcraft and all sorts of religious intolerances promoting for the highest pursuit of supreme freedom, supreme knowledge and supreme happiness. He said that one should not tolerate the religion of which he is

not being integral rather he should imbibe the good aspects of all religions. He found no contradiction between modern science and religion. According to him science and religion is complementary to each other. Both help to understand the nature of mankind and the mystery of the universe. He propagated the concept of universal brotherhood through his concept of universal religion. He taught people to love all religion and encourage to assimilate good things of all religions. In this way his attempts to unite all the people of the world irrespective of all differences of various kinds is accomplished through his concept of universal religion and brotherhood. He gave a perfect blend of science and religion by recognizing religion as scientific and science itself and the science of consciousness.

Conclusion

The present study provided an elucidated analysis and discussion on Vivekananda's philosophical teachings, his thoughts and ideas on education. It wasfound that his philosophy has bedded constituents of modern Indian education and his ideals and thoughts on different aspects of education havefruitful bearing need to be incorporated to the present education system. The concepts that are of universal brotherhood and religious tolerance have universal value to the present scenario. His attempt of commingling vedantic spiritual, moral and ethical education and western material concept of education has greater relevance to our modern Indian society for holistic overall progressive development of child's latent potentialities. His concept of self-education and man-making education and education for character and nation-building are the essences for the founding bedrock of present system of inclusive education. Besides, he alsolaid greater emphasis on women's education and education for people of the weaker sections in the society which is quite appreciable and acceptable to modern society for creating an egalitarian society of morally uplifted and materially flowered.Thus being a Hindu monk and vedantist advocate, his philosophical teachings and ideas on different aspects of education is remarkable to make the modern education more practicaland productive to society. Through perfect provision for balanced curriculum contributes to spiritual and material development of students' inherent qualities through the manifestation of what is already being there in children in latent form is also the basic tenet of learner-centred education. Lastly, taking together while appraising the contributions of Swami Vivekananda, Netaji Subhash Chandra Bose wrote that "Swamiji harmonized the east and the west, religion and science, past and present. Our countrymen have gained unprecedented self-respect, self-reliance and self-assertion from his teachings".

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DYNAMICS OF RELIGION AND LAW IN INDIA

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Abstract
This article tries to analyse the dynamic relationship between religion and law with special reference to India. The relationship between religion and law is famously complex. From antiquity to current modernity despite various historical transformations, law and religion have never been completely separated. India being a secular country, the phenomenon of this relationship has been quite dynamic and unique. In ancient classical Hindu thought the distinction between and religion and law did not exist. Today, though India is a secular country, the religion has had an enormous influence on the making of its Constitution and continues to influence the formulation of different laws of the land in present. The beauty is that it includes the essence, interests and values of all religions present and practiced in India.

Key Words: Constitution, Law, Morality, Religion, Secular etc.

Introduction
The relationship between religion and law is famously complex. From antiquity to current modernity despite various historical transformations, law and religion have never been completely separated. There is a general consensus about the thesis that religion is the source of modern law. Before the concept of state or democracy- the agents of modern law existed, religion played a very vital role of maintaining law and order in ancient societies at different parts of the world. The concept of divine sovereignty, an earthly sacred religious ruling authority, was gradually replaced by a concept of the secular state's sovereignty as the law giver and protector. Though, the religious institutions were slowly separated from the state, yet, religious identities and virtues of religious faith have remained cemented in state law and its legal ideology. This paper aims at analysing this complex relationship between religion and law with special reference to Indian context. India being a secular country, the phenomenon of this relationship has been quite unique.

The first part of this paper provides a historical analysis of how the relationship between the religion and law has undergone various transformations till date and how the formulation of state laws has their foundation in the religion of the land.

The second part discusses this relationship particularly in Indian context. It tries to explore how the Indian constitution, keeping intact its secular fabrics, was constituted by incorporating positive elements from significant contemporary secular democracies and providing a due space for the practice of values from all the religions in India. It concludes with the discussion on feasibility of the enactment of uniform civil code in India.

A. Analysing Relationship Between Religion and Law

The relationship between religion and law is famously complex. Religious values constitute central elements of societal values that shape the rules, principles and institutions governing society. Religions seek to shape all aspects of personal and societal relations. The view that morality depends on religion maintains that without religion there would be no morality because moral codes come from religion, and moral opinions are judged against the standards set by religious teaching. Moral behaviour is judged to be right or wrong depending on whether it conforms to or contradicts the teaching of God, religious texts, religious leaders, or religious tradition. Law can be defined as a system of rules of conduct, developed or recognized by the state power that guides human behaviour in accordance with the values, of that society, establishing legal rights and obligations of which mandatory abidance is provided, when needed by the coercive force of public power. Further, Law is a principle that connotes order, whether this be the order of the physical universe or that of morality. Law is the rule and measure of human acts and relations.(Wu 1987, 545) Religion also provides with the framework to measure human acts and their relations to God and one another. Historically we find most obvious connection between religious and legal doctrines which have been formulated through the ages. Harold J. Berman has demonstrated that religion has a legal dimension and law has a religious dimension and those legal and religious ideas and institutions are intimately connected. He has also shown that jurisprudence cannot be divorced from religion.(Witte & Alexander 1988, xiii) Sir Alfred Denning, Lord Justice of the Court of Appeal in England, wrote, “without religion there cannot be morality: and without morality there can be no law.”(Harding 1956, v) If religion is necessary to morality and if morality is necessary to law then religion is necessary to law. The third annual conference at Southern Methodist University on Law in Society explored the question whether morality is essential to law. It concluded with an insistence that law must be counted as a living human institution, not as a collection of abstract verbalizations. As a human institution, law cannot escape human morality.((Harding 1956, vi-vii)

Morality necessarily includes the entire body of law. Law and morality are but differing manifestations of the same thing.(Harding 1956, 36) Law and religion

need each other; law to give religion its social dimension and religion to give its spirit and direction for law. The sanctity the law needs to command respect also comes from religion. Where they are divorced from each other, law tends to degenerate into legalism and religion into religiosity. (Witte & Alexander 1988, xvi) Law and religion, therefore, exist in dualistic antinomy and in dialectical harmony. They share many elements (like authority, tradition, ritual, universality), many concepts (like obligations, fault, justice, atonement), and many methods (like interpretation, judgment, restitution and reformation).(Witte & Alexander 1988, xvi) They also balance each other by counterpoising justice and mercy, rule and equity, law and religion, their vitality and strength. Religion is the very basis of human life which is not just following a belief but it is also a the way of living because the followers of a particular religion follows a definite kind of livelihood and with this moral duty of following certain rules the religion enters the boundary of law whereby a person is compelled to follow or not to break the rules decided by a state. Hence, it is obvious that the law and religion are dependent on each other.(Gadhre 2019)

Modern law and religion are essential socio-political phenomena that have in common some veiled elements. Both aspire to constitute, or at least to frame, human consciousness and behaviour in all spheres of private and public life. Accordingly, modern law and religion are complementary, contradictory and simultaneous sources of rule-making, adjudication and execution. Both implant obedience and obligations, leadership, institutions and legal ideology as foundations of their maintenance and prevalence, based on a strict structure of commands. Modern law and religion are engendered through written and oral intergenerational texts that are enforceable through authorities, and are subjected to authoritative, corresponding and alternative hermeneutics.(Barzilai 2007, xi)

Origin of Law in Religion

Though there is no reason to suppose that law was a linear development of religious precepts yet Sir Henry Maine remarks, there is no system of recorded law, which when it first emerges into public domain, is not seen to be entangled with religious rituals and practices. There is no system of law that is not ultimately legitimated by religious belief and ritual. The popular belief is that law originated from the religion. (Turner 1987, 561) It is impossible really to understand the growth of western constitutional thought unless we consider constantly, side by side, ecclesiology and political theory, ideas about the church and ideas about the state. In the past when primitive people emerged from tribalism to form a civilized society and a state, they most commonly turned to theocratic absolutism as the only effective way of maintaining order and unity in a complex society; to the rule of a sacred monarch, a priest-king, a divine

emperor. In this regard Bernard Shaw has rightly observed, "the art of government is the organization of idolatry." (Tierney 1982, 8)

Ancient Egyptian law dating back to 3000 BC, the law code given by Sumerian king Ur-Nammu in 22nd century BC, Babylonian law developed by King Hammurabi around 1760 BC and Torah from Old Testament which includes the Ten Commandments etc. all of these laws' origin was of divine/religious nature. If we think of Indian first codification of laws like Manu Smriti, it also was based on divine Vedas. Before state and laws came into existence the religious laws played an important role in maintaining law and order in the society. Religion was the custodian of laws, morality and order in the society. So, one may say that the modern laws have originated from religion though we don't have exact written document to prove so.

Historical Analysis

From antiquity to current modernity amid various historical transformations, law and religion have never been completely isolated from each other. They have never been so independent as to achieve complete autonomy from each other. Religion has essentially been embodied in modern legal systems, even in those that have aspired to privatize religion. Religions are embedded in daily practices in various regions throughout the world, in Western regimes and post-communist regimes alike. There has always been the compound interactions and multifaceted mutuality between law and religion, as this paper tries to establish.(Barzilai 2007, xi) Thus, Intimate relations between law and religion have been constituted and constantly transformed throughout history. According to natural religious law – a law driven from a faith in God or in divine forces – morality and legality are embedded in religion. Sacred law formulates a space for human choices and judicial discretion in the articulation of a celestial divine order. Such a natural religious prism of law, which is prominent in the writings of theological thinkers such as St Augustine, Thomas Aquinas and Maimonides, has not only been a normative indicator of a good faith and a virtuous behaviour, but also the absolute criterion for obedience and disobedience to human-made law. (Barzilai 2007, xiv)

Spurred by post-medieval science and the rationalization of law as science, natural law has been secularized, particularly since the fourteenth century AD. Which was imprinted by the sixteenth-century Copernican revolution was followed by rationalizations of faith in seventeenth-century Descartes and Kant's philosophies of the eighteenth century. In a gradual process, religious ethics and religious law were reproduced based on human consciousness and rationality. While the importance of religious faith was regenerated as part of human

experience, questions revolving around the existence of God were marked as unique and separated from the routinely rational endeavours of humanity. (Barzilai 2007, xiv)

The partial divorce of law from religious dicta and its construction as an 'autonomous' professional field have framed law as a ruling setting. Accordingly, a concept of divine sovereignty, an earthly sacred religious ruling authority, was replaced by a concept of the secular state's sovereignty. Especially during the seventeenth century and onwards, the latter was imagined as an aggregation of individual wills rooted in contractual metaphorical relations. Although religious institutions could have been separated from the state through various institutional arrangements; religious identities and virtues of religious faith have remained cemented in state law and its legal ideology.(Barzilai 2007, xiv)Hence, a fundamental reasoning underlying this paper is that any understanding of modern law should deconstruct an imagined separation between religion and modern state law. Religion continues to influence heavily the affairs of the state and its legal system though these states claim to be secular nations. In India too, though it was declared a secular country by its Constitution after its independence from British empire, the influence of religion on its legal system has been enormous. What makes India unique is that these influences are not from mono religion but all the religions. The following part analyses the making of state laws in secular Indian.

B. Religion and Law in Indian Context

In India we find a unique expression of this relationship between law and religion from the very ancient time. The distinction between law and religion does not exist in classical Hindu thought. Instead, both law and religion are parts of the single concept known as dharma. This fact is the key to understanding the legal system of classical India and its eventual acceptance and adaptation in other parts of Southeast Asia too. Dharma, the basis for the legal system, is a system of natural laws in which specific rules are derived from an ideal, moral, and eternal order of the universe. The fact that the laws are based on this eternal order is their source of validation and authority. The validation of the "laws" in this system was to be found in the religious belief that the world is organized according to the natural and moral order of dharma.(Lariviere 2005) Hinduism also testifies to multifaceted interactions between state power and religions as traditions of law. Ludo Rocher explains in his essay titled, 'Hindu Conceptions of Law' argues that Western notions of law pressured Hinduism only towards the end of the eighteenth century. Historically, obedience in Hinduism is embedded not in mere formal rigid law but in dharma. It means that the need of every

human being to live in a compatible sense of balance with his or her environment. Law in its more stringent logic of ordered hierarchical set of regulations is part of dharma; however, law should not control dharma but, rather, be guided through it. Hence, Rocher's essay deconstructs any categorizations of religion and law as mutually separate. Rocher shows how any enforcement of Western law through English imperialism in India has been subjected to dharma and to intrinsic interactions of law and religion. (Rocher 1978) However, principally since the early twentieth century, Hindu law and the hermeneutics of dharma have been more attentive to governmental purposes and have enabled the state to rule through national codification, with a greater emphasis on administrative and criminal laws. (Barzilai 2007, xix)

Historical Analysis

Ancient India represented a distinct tradition of law and had an historically independent school of legal theory and practice. The Arthashastra, dating from 400 BC and the Manusmriti, from 100 AD, were influential treatises in India. These texts were considered authoritative legal guidance. Manu's central philosophy was tolerance and pluralism, and was cited across Southeast Asia. Early in this period, which finally culminated in the creation of the Gupta Empire, the appearance of similar fundamental institutions of international law in various parts of the world shows that they are inherent in international society, irrespective of culture and tradition. Inter-State relations in the pre-Islamic period resulted in clear-cut rules of warfare of a high humanitarian standard, in rules of neutrality, of treaty law, of customary law embodied in religious charters, in exchange of embassies of a temporary or semi-permanent character. When India became part of the British Empire, there was a break in tradition, and Hindu and Islamic laws were displaced by the common law. As a result, the present judicial system of the country derives largely from the British system and has little correlation to the institutions of the pre-British era. (Gadhre 2019) Yet the Indian Constitution was all inclusive and is the beautiful collage of so much of diversity.

Among the seven member nations of SAARC(South Asian Association for Regional Cooperation), India stands out as the only country that has declared itself a secular State. In each of the remaining six nations, one or another spiritual faith has the status of the officially adopted or state promoted religion. Buddhism in Bhutan (Bhutan Constitution, Articles 2-3, Draft 2005) and Sri Lanka; (Sri Lanka Constitution, Article 7) Hinduism in Nepal (Nepal Constitution, Articles 4, 27) and Islam in Bangladesh, (Bangladesh Constitution, Article 2A) Maldives (Maldives Constitution, Article 1) and Pakistan.(Pakistan Constitution, Article 2, 2003 amendment) Constitutionally, India is a secular country and thus doesn't

have any State religion. However, it has developed over the years its own unique concept of secularism that is fundamentally different from the parallel American concept of secularism, which demands complete separation of church and state and also from the French ideal of secularism (Laicite) (In France religion is completely a private affair). Indian Secularism neither demands complete separation of religion from the state nor does it propagate and patronize any one religion. Indian Constitution provides the following provisions:

> "The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India." (Indian Constitution, Article 14)
>
> "The State shall not discriminate against any citizen on grounds only of religion, race, caste, sex, place of birth, or any of them." (Indian Constitution, Article 15, Cl. 1)
>
> "No citizen shall, on grounds only of religion . . . be subjected to any disability, liability, restriction or condition with regard to access to or use of various public places." (Indian Constitution, Article 15, Cl. 2)
>
> "No citizen shall, on grounds only of religion . . . be ineligible for, or discriminated against, in respect of any employment or office under the State." (Indian Constitution, Article 15, Cl. 3)

Thus, India is a unique secular country which constitutionally safeguards the interests and values of all religions present and practiced in India. Now I will discuss how the law of the nation, the Indian Constitution came to be formulated which provides the necessary provisions to affirm the secular fabric.

Law of India refers to the system of law which presently operates in India. It is largely based on English common law due to the long period of British colonial influence during the period of the British Raj. Most of the contemporary Indian laws show substantial European and American influence. Various legislations first introduced by the British are still in effect in their modified versions today. During the drafting of the Indian Constitution, laws from Ireland, the United States, Britainand France were all synthesized to get a refined set of Indian laws, as it currently stands. Indian laws also adhere to the United Nations guidelines on human rights law and the environmental law. Certain international trade laws, such as those on intellectual property, are also enforced in India. (Gadhre 2019)

The unique thing about India is that Indian family law is complex yet beautifully incorporated in the legal system.Each religion in India has its own specific laws to which the followers of that particular religion adhere to. There are separate laws governing Hindus, Muslims, Christians, Sikhs and followers of other religions. The exception to this rule is in the state of Goa, where a Portuguese uniform civil code is in place, in which all religions have a common law regarding marriages, divorces and adoption. (Gadhre 2019)

The right to freedom of religion is a fundamental right according to the Indian Constitution. The Constitution also suggests a uniform civil code for its citizens as a Directive Principle. However, this has not been implemented until now as Directive Principles are Constitutionally unenforceable. The present saffron regime in India has been seriously deliberating the enactment of uniform civil code. The Supreme Court has further held that the enactment of a uniform civil code all at once may be counterproductive to the unity of the nation. Therefore, only a gradual progressive change should be brought about in the enactment of this code and its implementation. The formulation of the uniform civil code must necessarily take into considerations the sentiments of all the religions. It should be derived as an extract of all the religions, inclusive of essence of each of these and after the consultation with both the legal and religious experts.

Conclusion

At the end of the analysis we can conclude that the law and religion are integral part of each other and the religion is very basis of the formulation of law anywhere in the world from ancient to modern time. This is true of India also. There was a time in Indian history when religion supplied, regulated, and fully controlled the legal and judicial system of the country. Today the situation is the other way around. In the secular India of our times, it is the law of the land that determines the scope of religion in the society, and it is the judiciary that determines what the laws relating to the scope of religion say, mean, and require. However, even today, religious values and traditions continue to have a strong influence on Indian society and state. This religious aspect remains duly reflected in the Constitution and the fast-growing body of national laws. The practice and interpretation of secularism in India have from the very beginning been, and remain, sensitive to and reconciled with the ground realities. This sensitivity and reconciliation make India's religion-state relations both unique and fascinating which we must feel proud about as Indians.

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THE STORY OF THE EVOLUTION AND DEVELOPMENT OF ART AND ARTISTS IN BENGAL

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In the story of the evolution of modern paintings in Bengal, two vital landmarks were the setting up of the School of Industrial Arts in 1854 and the Government School of Art in 1864. The Government School of Art was got wind of impart training in Western academic style of painting and graphic arts to Indian painters. Among the shadowy figures in painting in the last decades of the nineteenth century, the name of Sashi Hess stands out. Sashi Hess, after an early training in Calcutta went to study painting in Italy. His extant works, nudes and portraits, such as those in the Marble Palace Museum, Calcutta, and elsewhere show his high degree of skill as an oil painter in the Western academic style. Before discussing paintings in Calcutta in the twentieth century, it is necessary to take a brief look at the political and socio-cultural background of the so-called nineteenth century renaissance of Bengal.

To the impact of Western education, a sense of nationalism demanding a national identity, individual liberty, freedom of press and speech, equality in the eye of the law and a rightful share in the governance of the country became dominant. This new spirit helped to liberalize intellectual outlook, religion, and led to new innovations and extra-ordinary creativity in the fields of literature and the stage. But it produced hardly any effect in the sphere of painting which in the second half of the last century presented a scene of abject passivity. Indeed there were no self-questionings, no attempts at intelligent assimilation of western techniques and mediums with Indian traditions on the part of the painters.

However, when we entered in the nineteenth century, Bengal got swept by a spirit of nationalism leading to the Swadeshi movement following the partition of Bengal in 1905. This inspired some painters who made efforts to revive the glory of ancient Indian art. Abanindranath Tagore, in association with Haveil, was the leader of this movement. Bengal movement was led by Abanindranath Tagore (1871-1951) and British arts administrators like E. B. Havell, the principal of the Government College of Art, Kolkata from 1896.The Bengal school came up as a nationalist movement that responded against the academic art styles that were previously promoted in India by British art schools and renowned Indian artists such as Raja Ravi Varma. It was a response to the western academic style of art promoted by various art schools in India during the British rule. The movement started with the reformation of the teaching methods. This call was met with protest and was considered by many as a step in the backward direction. As Abanindranath Tagore believed that real Indian art had to be religious, he adopted the Japanese wash technique. Tagore painted a number of works influenced by Mughal art, a style that he and Havell believed to be expressive of India's distinct spiritual qualities, as opposed to the "materialism" of the West. His works, combining the new technique and also Indian miniature styles, produced a remarkable body of works including his famous Arabian Nights series, Gaganendranath, his eldest brother, painted in Chinese ink using western cubistic elements. He also produced three volumes of cartoons-BirupVajra, Advutlok and NabaHullor---which remain supreme exam pies in this genre in India. Abanindranath's most famed disciple was Nandalal Bose. He developed a style that combined Indian classical and folk styles and Chinese and Japanese influences to paint Santiniketan and Birbhum scenes, tribal men and women. Possibly his major work remains the 83 posters depicting village life, characters and animals etc for the Haripura Congress in 1938. Nandlal Bose drew them at Mahatma Gandhi's request in the short space of nine weeks which gave them a kalighat-like fluency of lines and spontaneous character.

Jamini Roy, a contemporary of Nandalal, began his career as a successful painter in western technique and became famous for his portraits in 0ils. Jamini Roy, however, gave up his promising career in his search for his 'Bengali identity. Defying both poverty and other difficulties, he finally won national eminence by evolving a personal style that combined stylistic elements of Kalighat paintings, old Bat-tala woodcuts, scroll paintings and the well known terra-cotta temple reliefs as well as terra-cotta toys of his native Bankura and Bishnupur. A most significant event in Calcutta's paintings of this century was the emergence of Rabindranath Tagore as a painter, in his seventies though he attempted to paint and gave it up in his early twenties. Rabindranath was a pure painter who executed over 2,000 paintings of weird and strange but wonderful beauty and aesthetic excellence comprising a wide range of subjects that arose from the

depths of his unconscious and his world of dreams: birds. and animals unknown in exact zoology, faces of mysterious women, male faces, masks and human groups, glowing and magical landscapes, flowers and so on. In fine, though self-taught, Tagore remains twentieth-century lndia's most original painter.

Two Bengali artists of great power and skill, the painter Benode Behari Mukherjee and the sculptor-painter Ram KinkerBaij did most of their works in Tagore's Santiniketan. Benode Behari, apart from his masterly canvases remains memorable for his immense mural on the walls of Vjsva-Bharati's Cheena Bhavan. Ram Kinker became the greatest Indian sculptor of this century and his monumental open air sculptures combine the aesthetics of India's classical sculptural tradition with modern sensibilities. Ram Kinker was also a major painter noted for his oils and sketches.

The momentous years of the Second World War and the Bengal family of 1943 and its aftermath gave rise to a new art movement leading to the formation of India's first artists group - the Calcutta Group. Founded by sculptors like Prodosh and Kamala Das Gupta, and painters like Subho Tagore, Nirode Majumdar, Prankrishna Pal, Rathln Maitra and Paritosh Sen.The Group tried to create a new art language combining Indian traditions with the influences mainly of contemporary French painting. Sanat Chatterjee is one of the last living pioneer of Bengal School of art. Studied under Asit Kumar Haldar around fifteen years. This school has always been respected for being one of the earliest art movements in the country. But now, it is getting its due recognition in the art market as well. Prices of paintings from the old Bengal school have multiplied almost four times from last year. The proverb 'old is gold' stands true for Bengal school of paintings which have suddenly become dearer than gold. And experts say that the upswing in these prices is here to stay, at least for the coming two years.

Over the succeeding decades many new groups, new painters and sculptors appeared on the art scene and the movement of more vigorously than ever eminent sculptors like Debi Prasad Roy Chowdhury, Prodosh Das Gupta, Chintamoni Kar and Meera Mukherjee were followed by Somnath Hore, Sarbari Roy Chowdhury, Manik Burman, Bepin Coswamy and others. Among the notable present painters are Paritosh Sen, Ganesh Pyne, Bikash Bhattacharjee, Jogen Chowdhury, Shyamal Dutta Ray, Prokash Karmakar, Sunil Das, Dharmanarayan Das Gupta, Chittravanu Mazundarm Wasun Jaoiirm Ganesh Haloi, Veena Bhargava and Chitralekha Tagore. Artists from outside Calcutta who have an affection for this city include among others Maqbool Fida Hussain, Satish Gujral, K.K.Hebbar, Manjit Bawa, Arpita Singh, Paramjit Singh, BalCHhabda, Laxman Shreshtha, Anjolie Ela Menon, J. Swaminathan, Manu Parekh, Prabhakar Mahadeo Kolte, Ram Kumar, Rekha Rao and Shamshad Husain.

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वेदरक्षणे निरुक्तस्य भूमिका

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वन्देऽहं मङ्गलात्मानं भास्वन्तं वेद विग्रहम्।
याज्ञ्यवल्क्यमुनिश्रेष्ठं जिष्णुं हरिहरप्रभुम्।।

"अस्य महतो भूतस्य निश्वसितमेतद्यद्ऋग्वेदो यजुर्वेदस्सामवेदो अथर्वाङ्गिरस इतिहास: पुराणं विद्या उपनिषदः श्लोकास्सूत्रान्यनुव्याख्यानानि अस्यैव एतानि(बृ.आ-२-४-१०) इति श्रुतिप्रमाण्येन ज्ञायते भगवतः परब्रह्मणः निश्वासरूपो वेद इति।

स एव वेदस्सनातनधर्मस्य प्रमाणभूतो वर्तते। अनेनैव वेदेन मनुष्यः चतुर्विधपुरुषार्थान् संपादयति। एवं इष्टप्राप्त्यनिष्टपरिहारार्थम् अलौकिका उपायाः अपि वेदेनैव बोध्यन्ते।अपौरुषेयःवेद: द्विधा विभक्तः कर्मकाण्डः, ज्ञानकाण्डः इति। तत्र द्वयोःसमन्वयेनैव परब्रह्मतत्वस्य प्राप्तिर्भवति। तावुभावपि अक्षरात्मकरूपेणैव उपलभ्येते। अक्षरब्रह्मपरमम् इति गीतावचनम्। अक्षराणाम् समाहारः पदम् इत्युच्यते

तत्र पदस्य किं लक्षणम्?

कतिविधानि पदानि?

एकस्य पदस्य कतिविधाः अर्थाः?

उपयुक्तस्थाने पदस्य वास्तविकः अर्थः कः?

इत्यादि विषयाः मनसि आयान्ति। तत्र कर्मकाण्डप्रधाने शुक्लयजुर्वेदे प्रयुक्तानां पदानां विषये ज्ञास्यामः।यजुर्वेदः एकाधिकशतशाखायुतः। तत्रापि १५ शाखाः शुक्लयजुर्वेदसंबद्धाः, अवशिष्टाः ८६ शाखाः कृष्णयजुर्वेदसंबद्धाः। प्रस्तुतं शुक्लयजुर्वेदस्य द्वे शाखे, कृष्णयजुर्वेदस्य द्वे शाखे उपलभ्यमाने भवतः।शुक्लयजुर्वेदस्य काण्वशाखा, माध्यन्दिनशाखा प्रस्तुतम् उपलभ्येते।

शुक्लयजुर्वेदस्य संहिता, ब्राह्मणम् इति विभागद्वयम् वर्तते। तत्र संहिताभागःचतुर्षु भागेषु विभक्तः -

दशकाः(४)

अध्यायाः(40)

अनुवाकाः(३२६)

कण्डिका:(२०८६)

कर्मप्राधानस्य शुक्लयजुर्वेदस्य समस्तेषु अध्यायेषु अग्निहोत्रादारभ्य नानाविधानां होमानाम्, इष्टीनां, यागानां वर्णनं कृतं वर्तते। यज्ञो वै श्रेष्टतमं कर्म इति कर्मसु यज्ञस्य प्राधान्यं प्रोक्तम्। इदं यज्ञाचरणं अध्यात्मिकार्थं, आदिभौतिकार्थम्, आध्यात्मिकार्थं त्रिविधमपि बोधयति। पदानां वास्तविकार्थज्ञानेनैव अयं सिद्धः भवति। तच्च ज्ञानं वेदाङ्गानां सम्यगध्ययनेन भवति। तेषु निरुक्तविषये ज्ञास्यामः

छन्दः पादौ तु वेदस्य हस्तौ कल्पोथ कथ्यते
ज्योतिषामयनं चक्षुः निरुक्तं श्रोत्रमुच्यते ।
शिक्षा घ्राणं तु वेदस्य मुखं व्याकरणम् स्मृतं
तस्मात्साङ्गमधीत्यैवब्रह्मलोके महीयते।।

तत्र वेदस्य षडङ्गेषु निरुक्तं वेदस्य शब्दकोशः इव कार्यं करोति। निरुक्तस्य प्रथमाध्यायः चतुर्दशभागेषु वेदस्य नानाविधपदानां अर्थाः प्रतिपादिताः। तत्र पृथ्वी नामानि, हिरण्यनामानि, नदी नामानि इत्यादीनि प्रतिपादितानि। पदं पदार्थस्य वास्तविकं स्वरूपम् अवगमयति। पदानि चतुर्विधानि-

नाम
आख्यात
उपसर्ग
निपातानि

तत्रापि लौकिकपदानि, वैदिकपदानि इति पदानि द्विविधानि। लौकिकपदानां प्रयोगः लोके सर्वसाधारणतया उपयुज्यन्ते। वैदिकपदानि केवलं साहित्यग्रन्थेषु, गुरु शिष्ययोः मध्ये गुरुकुले एव प्रायः प्रयुज्यन्ते। तच्च वेदस्य अस्थित्वस्य रक्षणार्थं कृतम्। निरुक्तम् इति ग्रन्थे नानाविधानां पदानां विविधार्थाः अथवा नानाविधानि पर्यायपदानि प्रतिपादितानि।

उदाहरणम्-

चन्द्रन्त्वा चन्द्रेण क्रीणामि शुक्रं शुक्रेनामृतत्वेन।
सग्मेतेगोरस्मेते चन्दाणि।।

अयं मन्त्रः शुक्लयजुर्वेदस्य काण्वसंहितायां प्रथमदशकेचतुर्थाध्यायेनवमानुवाके प्रथमः। अस्मिन् मन्त्रेचन्द्रम् इति पदं वर्तते । अर्थ परिशीलन सहसा दिविदृश्यमानः अनेन लक्षते । किन्तु प्रकरणवशात् भाष्यकारेणे अस्य पदस्य हिरण्यं इति अर्थः निर्दिष्टः । अस्य प्रमाणं यास्कनिरुक्तस्य निघणटौ प्रथमाध्याये हिरणय नामासु चन्द्रं इति पाठः । साधारणार्थः चन्द्रः इति, निरुक्तोक्तदिशा हिरण्यम् इति अर्थः भवति।

एवमेव समुद्रशब्दस्य सागरः इत्येकः अर्थः, निरुक्तोक्त दिशा विश्वम् इत्यर्थः।एवं रूपेण निरुक्ताध्ययनेनैव वेदे स्थितानां पदानां वास्तविकार्थं ज्ञात्वा वेदार्थं समक् अवगम्य श्रेयस्साधनतां प्राप्नुमः।

आधारग्रन्थसूची-

1. नीरुक्त शात्रम् (यास्कः)
2. शुक्लयजुर्वेदकाण्व संहिता (प्रताप चन्द्र शर्म)
3. शुक्लयजुर्वेद भाष्यम् (कात्यायनः)

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CONSTRUCTION OF RESEARCH TOOL TO MEASURE THE PERSONALITY TRAITS OF ARTS AND SCIENCE COLLEGE STUDENTS

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Abstract
In the present study the Personality Traits Scale has been constructed and validated for Arts and Science College students. Initially this scale consists of 70statements. The Simple random sampling technique was used for this study. The Sample consists of randomly selected 100 Arts and Science College students from the Chennai District. The‘t- value was used to validate the tool and finally 34 statements were retained for the final study. The reliability and validity of the scale was established. Hence, personality Traits scale was considered as highly reliable and valid one.

Keywords: Personality, Personality traits, Arts and Science College students.

Introduction
The objective of the present investigation is to develop a tool to measure the personality traits of Arts and Science College Students in Chennai District. As there is no suitable tool available for the purpose, the Investigator has constructed and validated one in order to realize his objectives the personality traits scale is a 5 point scale consist of Strongly Disagree, Disagree, undecided, agree, strongly Agree. Initially, the tool consists of seventy statements prepared by the investigator and the guide. After conducting the pilot study 34 statements only retained and other items were rejected.

Definitions of Personality Traits
Personality trait is a characteristic that is specific and consistent in individual’s behavior. The trait approach is very popular and much advancement in this respect has already been taken place. Alloprt described different trait like central, secondary, common and cardinal traits while Cattell’s research explored 16 primary and five secondary factors and Hysenck expressed that only three traits of extraversion, neuroticism and psychoticism are enough to explain the

personality of individuals. Connor-Smith and Flachsbart (2007) have defined personality as characteristic patterns of thoughts, feelings and behaviors over time and across situations.

Pilot Study

The Personality Traits Scale has 70 statements. The Pilot Study was administered to the sample of 100 Arts and Science College Students were studying in Chennai District. After the responses have been scored carefully and marks secured by all the students have been arranged in the descending order from the highest score to lowest score. After the item analysis has been done.

Item Analysis

The next step in the validation of personality traits scale after pilot study is to find out that 't' value of each statement which forms the basis for item selection in order to build up the final scale.

The likert– type scale for a graded response to each statement on a five-point scale ranging from Strongly Disagree (SDA), Disagree (DA) Undecided (UD),Agree (A), Strongly Agree (SA). The different points on the scale were assigned arbitrary weights for example 1,2,3,4 and 5 in the order of response for the positive statements (34 items). The scoring scheme is reversed for the negative statements (36 items). The scoring key was given in below Table-1.

Table:-1 Scoring Key of the scale according to the Nature of Items

Nature of the Items	Strongly Disagree	Disagree	Undecided	Agree	Strongly agree
Positive Items 1,2,3,5,7,10,14,15,16,18,20,21,22,23, 24,26,27,33,34,35,37,39,40,41,42,45, 49,52,55,58,59,60,67,70	1	2	3	4	5
Negative Items 4,6,8,9,11,12,13,17,19,25,28,29,30,3 1,32,36,38,43,44,46,47,48,50,51,53, 54, 56,57,61,62, 63,64,65,66,68,69	5	4	3	2	1

Item Selection

To select the items from the final draft of the personality Traits scale; According to Edwards (1957) the Value of 't' value is equal to or greater than 1.96, it indicates that the average response of the high and low group and also in the low group.

The 't' value for all the 70 items of the personality traits scale were obtained to select the items for the final draft out of 70 items, were found to be selected as having 't' value more than 1.96 they are given in table-2.

Table-2: Items selected for the final Draft on the personality traits scale based on the 't' value between lower and upper group

Item No.	Group	N	Mean	SD	't' value	Remarks	Item No. in the final draft of personality traits scale
1.	Lower Group	27	3.11	1.21	3.52	Selected	1
	Upper Group	27	4.07	0.72			
2.	Lower Group	27	3.40	1.00	2.25	Selected	2
	Upper Group	27	4.00	0.91			
3.	Lower Group	27	3.22	1.08	1.98	Selected	3
	Upper Group	27	3.81	1.11			
4.	Lower Group	27	2.88	1.28	0.44	Rejected	-
	Upper Group	27	2.74	1.19			
5.	Lower Group	27	2.81	1.35	2.24	Selected	4
	Upper Group	27	3.59	1.18			
6.	Lower Group	27	3.25	1.45	0.10	Rejected	-
	Upper Group	27	3.22	1.25			
7.	Lower Group	27	3.18	1.07	2.28	Selected	5
	Upper Group	27	3.88	1.18			
8.	Lower Group	27	2.55	1.28	0.33	Rejected	-
	Upper Group	27	2.44	1.21			

9.	Lower Group	27	3.22	1.36	1.20	Rejected	-
	Upper Group	27	2.81	1.11			
10.	Lower Group	27	3.11	1.25	3.19	Selected	6
	Upper Group	27	4.00	0.73			
11.	Lower Group	27	2.55	1.42	0.62	Rejected	-
	Upper Group	27	2.77	1.80			
12.	Lower Group	27	3.37	1.27	1.17	Rejected	-
	Upper Group	27	3.37	1.28			
13.	Lower Group	27	3.81	1.14	1.73	Rejected	-
	Upper Group	27	4.25	0.71			
14.	Lower Group	27	3.33	1.17	2.73	Selected	7
	Upper Group	27	4.07	0.78			
15.	Lower Group	27	3.14	1.35	4.01	Selected	8
	Upper Group	27	4.33	0.73			
16.	Lower Group	27	3.07	1.38	2.08	Selected	9
	Upper Group	27	3.77	1.08			
17.	Lower Group	27	3.40	1.24	1.24	Rejected	-
	Upper Group	27	5.74	9.70			
18.	Lower Group	27	3.70	1.29	2.53	Selected	10
	Upper Group	27	4.48	0.93			
19.	Lower Group	27	3.14	1.26	1.11	Rejected	-
	Upper Group	27	2.74	1.43			

20.	Lower Group	27	3.03	1.05	5.24	Selected	11
	Upper Group	27	4.33	0.73			
21.	Lower Group	27	3.33	1.49	3.188	Selected	12
	Upper Group	27	4.37	0.79			
22.	Lower Group	27	3.22	0.97	5.04	Selected	13
	Upper Group	27	4.37	0.68			
23.	Lower Group	27	3.29	1.43	3.85	Selected	14
	Upper Group	27	4.44	0.57			
24.	Lower Group	27	3.18	1.27	3.89	Selected	15
	Upper Group	27	4.25	0.65			
25.	Lower Group	27	2.81	1.14	1.93	Rejected	-
	Upper Group	27	3.44	1.25			
26.	Lower Group	27	3.29	1.20	2.17	Selected	16
	Upper Group	27	4.00	1.17			
27.	Lower Group	27	3.07	0.95	5.88	Selected	17
	Upper Group	27	4.37	0.62			
28.	Lower Group	27	3.11	1.39	0.50	Rejected	-
	Upper Group	27	3.29	1.32			
29.	Lower Group	27	2.88	1.31	0.87	Rejected	-
	Upper Group	27	2.59	1.18			
30.	Lower Group	27	3.22	1.39	1.22	Rejected	-
	Upper Group	27	3.66	1.27			

31.	Lower Group	27	3.00	1.46	1.74	Rejected	-
	Upper Group	27	3.62	1.18			
32.	Lower Group	27	3.07	1.32	1.74	Rejected	-
	Upper Group	27	3.66	1.17			
33.	Lower Group	27	2.88	1.31	3.50	Selected	18
	Upper Group	27	4.00	1.00			
34.	Lower Group	27	2.62	1.11	5.21	Selected	19
	Upper Group	27	4.03	0.85			
35.	Lower Group	27	2.88	1.05	5.37	Selected	20
	Upper Group	27	4.29	0.86			
36.	Lower Group	27	3.00	1.35	1.54	Rejected	-
	Upper Group	27	3.59	1.47			
37.	Lower Group	27	2.74	1.28	2.69	Selected	21
	Upper Group	27	3.66	1.24			
38.	Lower Group	27	2.29	1.32	1.94	Rejected	-
	Upper Group	27	3.03	1.48			
39.	Lower Group	27	2.96	1.31	4.36	Selected	22
	Upper Group	27	4.25	0.81			
40.	Lower Group	27	2.62	1.33	6.39	Selected	23
	Upper Group	27	4.48	0.70			
41.	Lower Group	27	2.59	0.93	5.71	Selected	24
	Upper Group	27	4.18	1.11			

42.	Lower Group	27	2.66	1.35	3.95	Selected	25
	Upper Group	27	4.00	1.10			
43.	Lower Group	27	2.85	1.32	0.98	Rejected	-
	Upper Group	27	3.22	1.45			
44.	Lower Group	27	3.03	1.28	1.49	Selected	-
	Upper Group	27	3.51	1.08			
45.	Lower Group	27	3.07	1.23	2.13	Selected	26
	Upper Group	27	3.74	1.05			
46.	Lower Group	27	2.88	1.15	1.83	Rejected	-
	Upper Group	27	3.51	1.36			
47.	Lower Group	27	3.18	1.41	0.44	Rejected	-
	Upper Group	27	3.37	1.64			
48.	Lower Group	27	2.77	1.05	1.84	Rejected	-
	Upper Group	27	3.37	1.30			
49.	Lower Group	27	3.14	1.35	2.73	Selected	27
	Upper Group	27	4.03	1.08			
50.	Lower Group	27	2.96	1.31	1.51	Rejected	-
	Upper Group	27	3.51	1.39			
51.	Lower Group	27	2.25	1.12	0.89	Rejected	-
	Upper Group	27	2.55	1.31			
52.	Lower Group	27	2.74	1.22	3.66	Selected	28
	Upper Group	27	3.96	1.22			

53.	Lower Group	27	3.14	1.23	0.88	Rejected	-
	Upper Group	27	3.44	1.25			
54.	Lower Group	27	2.59	1.18	0.93	Rejected	-
	Upper Group	27	2.92	1.43			
55.	Lower Group	27	2.74	1.19	2.20	Selected	29
	Upper Group	27	3.48	1.28			
56.	Lower Group	27	2.88	1.47	0.63	Rejected	-
	Upper Group	27	3.14	1.56			
57.	Lower Group	27	2.81	1.30	0.59	Rejected	-
	Upper Group	27	3.03	1.45			
58.	Lower Group	27	3.25	1.19	2.43	Selected	30
	Upper Group	27	4.00	1.03			
59.	Lower Group	27	3.40	1.18	2.13	Selected	31
	Upper Group	27	4.03	0.97			
60.	Lower Group	27	2.59	1.21	3.33	Selected	32
	Upper Group	27	3.70	1.23			
61.	Lower Group	27	2.66	1.10	1.89	Rejected	-
	Upper Group	27	3.29	1.32			
62.	Lower Group	27	3.14	1.35	0.20	Rejected	-
	Upper Group	27	3.32	1.39			
63.	Lower Group	27	2.85	1.23	0.29	Rejected	-
	Upper Group	27	2.96	1.53			

64.	Lower Group	27	3.14	1.43	0.99	Rejected	-
	Upper Group	27	3.48	1.01			
65.	Lower Group	27	3.62	1.00	0.59	Rejected	-
	Upper Group	27	3.44	1.28			
66.	Lower Group	27	2.28	0.97	1.17	Rejected	-
	Upper Group	27	3.25	1.31			
67.	Lower Group	27	2.85	1.16	2.76	Rejected	-
	Upper Group	27	3.66	1.00			
68.	Lower Group	27	2.96	1.48	1.81	Selected	33
	Upper Group	27	3.62	1.21			
69.	Lower Group	27	3.81	0.96	1.15	Rejected	-
	Upper Group	27	4.11	0.93			
70.	Lower Group	27	3.77	1.08	3.23	Selected	34
	Upper Group	27	4.62	0.83			

Reliability

In order to establish the reliability of personality traits scale, the split- half method was used. The validity of personality Traits was found to be0.89, Hence personality traits scale was considered as reliable one.

Validity

The index of validity which is the square root of the reliability was found to be 0.94. Hence of the reliability was found to be 0.94 Hence, the personality Traits scale selected for the study was considered to be highly valid one.

Conclusion

The investigation is very useful, that this scale would be helpful to measure the level of personality traits among Arts and Science College students, hence, this scale will be very important in the modern context for the investigator to measure

to what extent the level of personality traits is in the Arts and science College Students.

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ROLE OF MISSIONARIES IN INDIA

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Missionaries occupied a central position m the linguistic codification and the educational project at large in India. 'The role of missionaries in the educational project was crucial. Indeed, just as religion was constitutive of nineteenth century British society, politics and social thought, so did the evangelical revival in the latter eighteenth and early nineteenth centuries play a crucial part in the empire' [1].By 1851,23 missionaries and ecclesiastical bodies had sent out their agents. Some of them were Americans, although the majority was British. Baptists, members of the Free Church of Scotland, and so on, were amongst the total of 448 missionaries out of whom only48 were ordained natives. Moreover, the missionaries in India had by 1851 founded2007 schools and seminaries of Christian and general knowledge, which had as many as 79,259 pupils, as against 24,954 instructed by the government.[2]

In 1855, two-thirds of the school-registered children were in government-controlled schools which were run by various missions or, much more rarely, by influential local people. Some of these missionaries were even recruited by the educational department to the posts of translators or inspectors, or had close connections with them. A prominent example was Thomas Candy, whose brother was a missionary and who himself wrote a large number of pieces on Christianity and the Gospel. The opposition between the government/educational department and the missionaries has consistently been exaggerated.[3]

In fact, British officers had themselves been brought up in a society in which the "powerful influence of an enveloping Christian culture in the formation of moral structures in society" was at pia/ .Admittedly, it is true that the colonial government strove to maintain a nonreligious line in its teachings, and quarrels regularly occurred between missionaries and the government for this reason. Missionaries were particularly prompt to denounce the systematic exclusion of Christianity from the government's schools and colleges, claiming the production of "confirmed infidels" as its main effect. Developments in several Presidencies in India at the same time confirm the commonality of

ground shared by government and missionaries.[4] In Madras, for instance, the Marquess of Tweedsdale, governor and commander-in-chief, issued a minute in 1846 to introduce the Bible as a class book. Although the minute was not enacted, the mere fact that it was issued at all testifies at least to ambivalence on the part of the government with respect to religious matters [5]

In Bengal, similar statements were made in the first decades of the 19th century. Thus in the Essays relative to the Habits, Character and Moral Improvement of the Hindus, published in London in 1823, which appeared originally in The Friends of India - a periodical journal run by the Serampore missionaries- a prospective report on the 'effect of the native press' in India stated that its output was very low in taste at the time, "the increase of legendary tales ... will tend to strengthen immorality". Both increase and immorality were attributed to the then existing lore of “tales of lewd gods and goddesses", hence the ensuing "indolence and luxury of eastern imaginations" that "naturalized" the natives' "vicious taste"[6]

A remedy for such a state of immorality was then offered; in order to combat such "vicious taste", it was recommended that 'moral tales' such as Amadis of Gaul, Palmerin of England, and Tirante the White be printed and circulated in Bengal. These three so-called moral
tales are in fact Portuguese and Spanish chivalric romances dating back to the 14th and 15th centuries, whose first translations into English by Anthony Munday (1560-1633). They appeared by the late 16th century and were highly popular with the ‘Elizabethan middle classes' [7]The three characters respectively represent archetypes of the accomplished knight who, after going through numerous trials and adventures, succeeds in wedding his Dame. These works allegedly enjoyed great popularity in England in the 19th century, thanks to their revision by Robert Southey (1774-1843),whose poems were incidentally much admired by Macaulay amongst others.

Moreover, it seems that the concept of morality, although spelt out in a different way before the advent of British education, was part of native teachings as well, as shown by the Hitopadesh(or animal moral fables) which the British later used for "teaching morals to the natives". Yet, the actual part played by the indigenous conception of morality and the existence of vernacular works such as the Hitopadeshin the elaboration of English moral teaching also remains to be evaluated. But if, as Bayly argues, "morality was represented as the actions and beliefs of the rational soul for which virtue consisted in a proper balance between natural desires and emotions",[8] in pre-modem India, then this seems to suggest a lack of concern for indigenous conceptions on the part of the educationalists at the time.

Christian Missions at Work in India

The Portuguese were the first to come to India and settle here. They came not merely for trade in spices, coconuts and cardamoms, but also as missionaries with the express intention of making Christ known to the people with whom they would trade. Coming with this double purpose, the Portuguese were the first to start schools in places where they settled. They opened schools at Goa, Daman, Diu, Hoogly, Calicut and other parts of South India in the sixteenth century. Converts to Christianity were given entrance in these schools with a view to raising their general, moral, intellectual and social status. The Portuguese Catholic Missionaries led by St. Francis Xavier, did good amount of work in the field of education. To them goes the credit of setting upthe first Printing Press in India, at Ambalcot, near Cochin. With the help of the printed material in local languages, these Jesuit Missionaries could carry on their educational activities with considerable success. The French followed suit. They also started schools in their settlements, namely, Pondicherry, Mahe, Chandemagore and Yanam. Teaching in these elementary schools was done through the medium of the mother tongue, and their special feature was that Indian teachers were also employed in them by the French East India Company. These schools therefore attracted a considerable number of nativestudents[9]The Protestant Missionaries of Denmark, who came to India in the beginning of the eighteenth century, did appreciable work in the field of education. They landed at Tranquebar on the south-east coast in 1706, and shortly afterwards started their educational activities under the leadership of two well known German Missionaries, Bartholomew Ziegenbalg (1683-1719) and Heinrich Plutschau (1678-174 7). Their efforts resulted in the establishment of 21 schools by 1725

Rev. Schwartz did laudable work in the provmce of Madras. His umque contribution was that he founded a number of schools for teaching English to the native children with the avowed aim of bringing about a better understanding between the Company and the Indian people. This attempt was highly appreciated by the British bureaucracy in India and also by the Court of Directors who went to the extent of sanctioning a grant-in-aid to these schools.[10]Lastly a number of English Protestant Missions came to India in the eighteenth century. The most important in the series was the Baptist Mission in which were Dr.William Carey, William Ward and Dr. Joshua Marshman. They could not start their work in Bengal, as originally planned by them, due to the opposition from the East India Company. They, therefore, shifted their area of work to the Dutch settlement of Serampore. They worked with a fine team-spirit and soon came to be known as the famous 'Serampore Trio'. The 'Trio' did extensive work in the field of education and brought 10,000 children into their schools. Thus the

Christian Missionaries continued to make important contributions to Indian education. These may be briefly summarized as under[11]

(a) Writing of text books in vernaculars. This led to the encouragement and growth of the Indian languages.(b) Translation of many English works of literature and of the Bible into vernaculars. This brought the Indian people in contact with the Western knowledge and thought, for the first time.(c) Special attention to the education of the converts, coming mostly from the lower strata of society. This resulted in the improvement of their social and cultural status.(d) Inspiration to the British officials to undertake educational activities with a view to winning over the hearts of the Indian people. This led to the opening of schools and colleges by the Government.

The Roman Catholic Mission

The greatest contribution of the Roman Catholic Mission has been in the field of education. Some of the finest schools, whether boys' or girls', in Chotanagpur, are run by the Catholic Mission Education of boys and also of girls, received early and active attention and support. Schools were, therefore, set up in many Christian villages. From the beginning, there was not a single Mission station without a Boarding school.[12]It is said that the missionaries purchased lands in the villages where conversion was expected to take place. They built a house, a chapel and started a school almost in every village. In 1874, when the Mission station at Burudih was opened, a group of nuns came and started a convent school[12,] which was soon closed down due to the outbreak of small-pox. It is said that there were no less than 30 schools by the year1886. The number of these rose to 60 by October, 1887. [13]

The Methodist Church

The Methodist Church that commenced work in 1856[14] , has been one of the most prominent Protestant Christian mission of Tamil Nadu. It started Missionary work in 1884 at in the A little school was opened; a small house with two rooms was built for a teacher at Sangrampur. At the end of the year, two small schools, one for boys and the other for girls, were founded.

The Seventh- day Adventist Mission

In 1898, the Seventh - day Adventist Mission from the United States of Americabegan missionary activity in Bihar at Karmataur,[15] in the district of Santa] Parganas, by transferring its orphanage at Calcutta to this place. (Calcutta was its headquarters.)With Elder F. W. Brown in charge, Karmataur became the first station of the mission in Bihar. The orphanage was also a school. In 1902, an English School was started for girls there by Miss Thekla Black and Miss Anna Orr, in connection with the orphanage there. In December 1904, the

English School at Karmataur was transferred to Calcutta. By 1912, the Mission at Karamtaur had a Middle English School with 50boys and five village schools with about 150 boys and girls.[16]

British Churches of Christ Mission

Mr. Paul Singh,[17]an Indian evangelist, opened the work of the British Churches of Christ in the district of Palamu, early in 1909. The first major venture in the field of education was the establishment of a small school[18]at Daltonganj in 1914. This laterdeveloped into a Middle English School for girls under EvelineBednock. It was associated with a hostel and an orphanage.Mr. &Mrs. Pryce settled at Nawa Bhandaria, seeing that the tribal people there were in a state of extreme poverty, oppressed by landlords and without educational and medical facilities, started aprogramme of adult literacy which was conducted at about 13 centers in and around Bhandaria.

Thus we find that the Christian Missionaries were instrumental in the establishment of many schools in different parts of Tamil Nadu. They had not confined themselves to the establishment of schools alone, but had also established a college for imparting higher education to the people. The chief motive was, however, to convert the Indians to Christianity and they thought that introduction of English education and Western civilization would facilitate their proselytization work.

The Missionaries were also critical of Hindu customs and manners. This was bound to provoke reaction which was not long in coming for the distinguished mind of the age, Raja Ram Mohan Roy who was greatly attracted by the message of Christianity, deliberately rejected Christ after considerable spiritual adventure and turned instead to a reformation of Hinduism. As far as their contribution to women's education goes, definitely they were the pioneers as well as the first ones to bring institutionalized and formal education, in the form what we are experiencing today, but what is really interesting is the fact that despite so many of schools and returns shown by them, the actual scene even today is quite different.

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MANAGING BIOMEDICAL WASTE USING BARCODE SYSTEM

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Abstract
Generation of biomedical waste is unavoidable and need to manage with efficient way. Traditional way of housekeeping and garbage management is not an efficient method in case of bulk generation of waste. Moreover, various activities such as sorting, loading and packing of waste involved health hazards. Digitalize the information and uses of bar coding system provide safe and efficient way to handle biomedical waste. Latest amendment in biomedical waste management regulation 2016 enforced every occupiers and operator to use barcoding system and digitalize the information related to waste generated and disposal off. There are some wastes that are hazardous to our life which are generated from healthcare hospitals, dispensaries, blood banks, animal research centers, biotechnology institutions and medical colleges etc. To avoid the reuse of biomedical waste material, a system/model is suggested in this paper for protecting environment and human health by using barcode scanning of already used biomedical items like-syringe, urine bags, pathological waste etc.

Keywords- Biomedical waste management, healthcare, Bar-coding system, tracking system

Introduction
Nowa day's managing biomedical waste becomes a major concern for environment as well as human health. The waste generated from hospitals and healthcare sectors during patient care are directly or indirectly affecting the public, flora and fauna of that area. There are various sources from where these biomedical wastes generated are government and private hospitals, primary health centers, dispensaries and nursing homes, animal research centers, vaccination centers, blood banks and blood donation camps, dentist's clinics or cosmetic piercing and biotechnology institutions.The causes of above problem are environment pollution, growth in number of insects, rodents, unpleasant smell and transmissionof diseases like-AIDS, typhoid and hepatitis due to contaminated syringe. The world Health Organization has classified biomedical waste into different categories as follows [1]

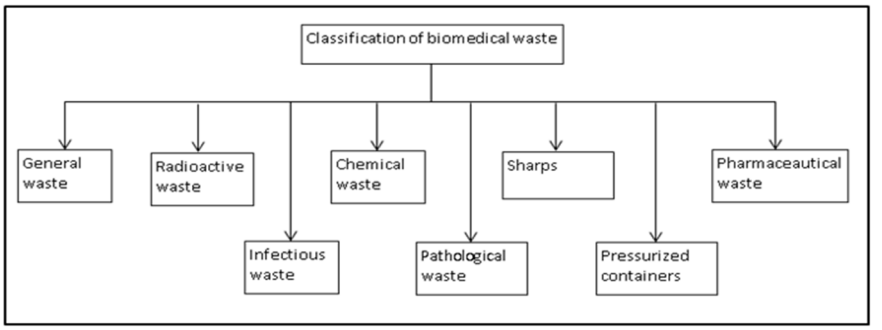

Fig 1: Classification of biomedical waste.

The government of India has taken many steps to eliminate the biomedical waste from surrounding. GOI stated it is a duty of hospitals to maintain hygienic environmental area by disposing of biomedical waste properly[2].

Need of barcode system and GPS system

In some rural/slums areas, people lack from proper medical healthcare facilities due to less funds contributed by government [3]. Also well qualified doctors don't prefer to move in those areas. These difficultiesgave rise to general practitioners to treat patients and reuse the biomedical instruments without sanitizing them. So there's a necessity to use Barcode system to avoid reusing of biomedical waste.All the information regarding disposal of waste generated from hospital are recorded and stored in the server. With the help of GPS system installed in vehicle, tracking of collected biomedical waste from initial to final destination can be done.

Process of biomedical waste management

Biomedical waste management system plays an important role in health care. To avoid the reuse,government and private healthcare bodies can follow below process[7,8]-

- Scanning of each used biomedical waste before throwing into bin.
- Collection of waste.
- GPS system installed in vehicle which carries collected waste keeps tracking ofthat vehicle movement.
- Before disposing ofbiomedical waste, barcode scanning is required.
- Information/data generated through scanning is stored in main server.
- Above information/data is transmitted to respective hospital through server.
- Now total waste can be disposed-off to dumping area.

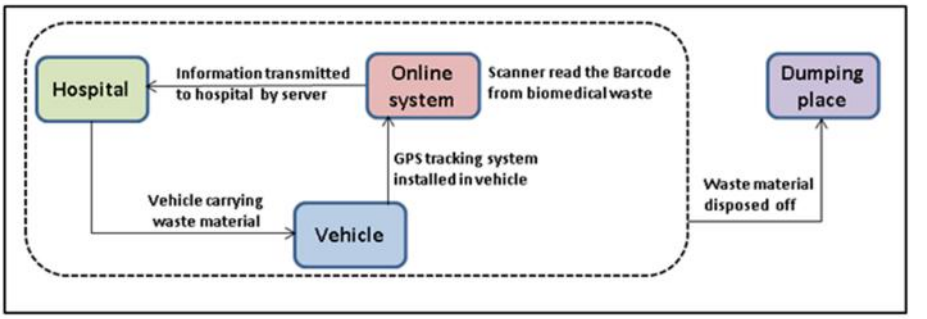

Fig 2: Process of biomedical waste management

Barcoding system:

Biomedical waste management regulation, 2018, enforced all occupiers as well as operator of a CBWTF to incorporate barcoding system for transportation of biomedical waste [7]. It helps in many ways especially in case of tracking of waste from source (hospital) to final destination (treatment plant). It is also helpful to quantification of biomedical waste. Digitalization of such information helps to analyses data gather from different hospitals and common treatment centres.Punjab pollution control board was pioneer to implement bar-coding based bio-medical waste collection system [5]. Figure below shows how barcode system is being implemented.

Fig 3: Transportation of biomedical waste from source of generation to disposal point

Recently, central Government has laid down the new rules in BMW regulation 2018, for proper handling of bio-medical at both point of generation and treatment plant. The bar coding is at source point need to be implemented using

appropriate hardware such as computer system, barcode printer and stationary [5,6]. After segregation, the wastes need to be packed into appropriate bags with the barcode sticker. A single barcode may include name of hospital, nature of waste, weight and time of packing. It may include some information about destination. Special vehicle will transport the waste to the common treatment plant where disposal and treatment will be dome. They also need required hardware and software to read the barcode,

Conclusion

Barcoding and digitalization of records helps to maintain records. Tracking during transportation has emerged as another security measure. The study suggests there's need of well-developed infrastructure,skilled staff for handling server and bar code scanning of biomedical waste, proper distribution of funds and necessary required equipment are needed for the successful implementation of biomedical waste management system using Barcode.

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HEARING AIDS WITH DIFFERENT FILTERING TECHNIQUES: A REVIEW

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Abstract
Speech intelligibility for people is dependent on noise which affects hearing loss people. The research in improvement of techniques of reducing noise in hearing aids is one of great challenge. The issues have been faced in many scenarios over the years and different techniques evolved, from relatively simple methods of filtering to advanced adaptive speech processing methods. This paper reveals comparative study of the issues involved and the various approaches to suppress the problem.

Keywords: Adaptive Filters, Digital Speech Processing, Directional Microphones ,Hearing Aids, Noise Lessening, Speech-In-Noise.

Introduction
The background noise reduces the hear ability of speech and that the greater the level of background noise the greater noise level in speech signal. Human can hear speech in a moderately noisy environment because speech is a highly redundant signal and so if any part of the speech signal is concealed by noise, its rest will convey satisfactory information to make the speech signal, or at least allow for communication. There is less redundancy in the speech signal for a person with hearing loss since part of the speech is either not audible or is severely distorted because of the hearing loss. Speech signal will degrade if there is less redundancy to compensate for the masking effects of the noise. Due to which people with hearing loss faces more issues as compared to normal hearing people.

With the advent of recent development of digital hearing aids opens up substantial new possibilities with respect to the use of advanced signal-processing techniques for noise reduction in hearing aids which allows for degree of speech processing to reduce the effects of noise (4,5). Because of the particularly damaging effects of background noise on speech for people with hearing-aid users this problem is of very much importance.

There are different methods of practical implementation that can resolve this issue. A brief review of speech processing is mentioned .

Methods

1. **Filters for time invariant noise**

The speech and noise spectra differ noticeably so it is possible to eliminate much of the noise and a relatively small portion of the speech by means of basic filters like low pass , high-pass filter ,band pass etc. The high-pass filter attenuates all signals below certain frequency and passes without attenuation all signals above threshold frequency. Removing both speech and noise will make masked by the noise. The noise components are intense and eradicating these components effects loudness of the noise and improving overall speech quality.

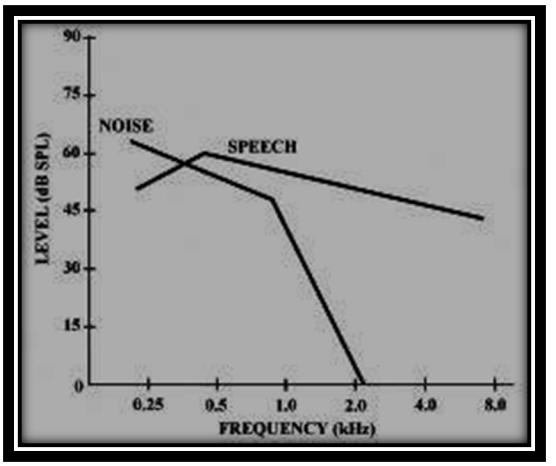

Figure 1.Speech peaks and noise

So, the differences between the speech and the noise lie primarily in the shape of their frequency spectra shown in figure 1. Since most of the noise lies in the low frequencies, the speech is masked in this frequency region and filtering out both speech and noise over this frequency range which has no effect on speech but reduces the loudness and exasperation of the noise.

1. **Adaptive Filters**

The frequency spectra of everyday noises are sel-dom so different from that of speech and are sufficiently time invariant that a fixed high-pass filters can effectively eliminate most of the noise without reducing speech intelligibility at the same time. It is possible to use frequency-dependent amplitude compression to reduce noise levels without a significant reduction in intelligibility. The method estimates the noise spectra to attenuate those frequency bands in which the noise exceeds the speech. This approach reduces reverberation by identifying

the frequency bands with excessive reverberation and then attenuating those bands.

The noise spectrum during pauses or other short breaks in the speech signaluses the short-term noise spectrum for analysis which does not vary rapidly with time and an appropriate frequency-gain characteristic calculated for the speech plus noise, when the speech is once again present.

Wiener filter is used requires that the spectra of both the signal and the noise do not vary with timea requirement that clearly does not apply to speech. Speech sounds have constant spectra over short intervals of time so use of short-term Wiener filter in which the short-term spectra of the speech and the noise are assumed not to vary significantly over short intervals of time. The potential gain in the speech-to-noise ratio, assuming the validity of this assumption, isrelatively small. The gain in signal-to-noise is obtained separately for each critical band and is small because of the relatively narrow bandwidths.

This is because the signal processing involved produces audible distortions, referred to as processing noise, that counteract the potential improvements in intel-ligibility resulting from the reduction in background noise.

2. **Spatial Filtering**

Speech and noise which differs in spatial properties not only in their spectral and temporal properties can use directional micro-phones or microphone arrays for noise reductions. There are important limitations over separation for efficient results shown in figure 2.Attenuation of background noise by a directional microphone show the range of directions within which sound is picked up by the microphone with-out attenuation

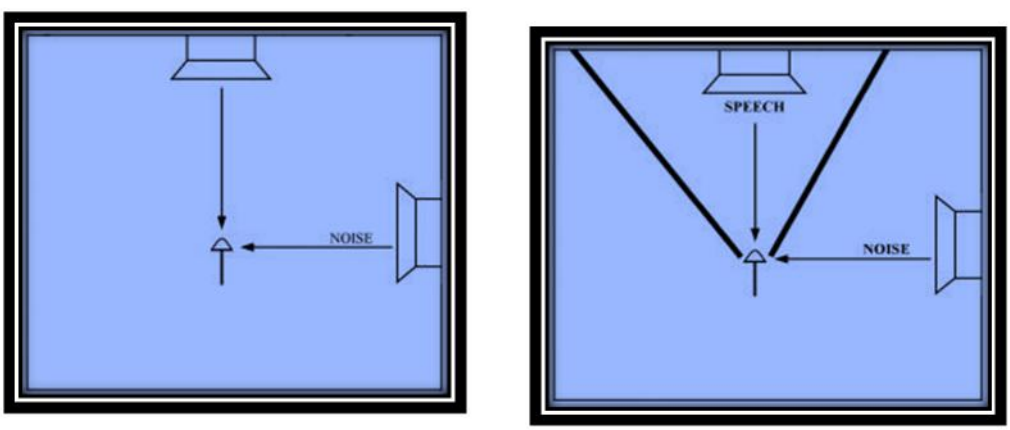

Figure 3Speech and noise from different directions.

1. **Adaptive Noise Cancellation**

The more effectively one can extract speech from noise more efficient speech is produced. The noise signal extracting the speech is a trivial problem which subtracts the known noise signal from the speech-plus-noise and speech is produced.

When the noise waveform can be identified exactly place a microphone at the location of the noise source so as to pick up noise only and second microphone elsewhere which will store both speech and noise. The reflection of signal is responsible for basic process of adaptive cancellation .To process the noise waveform to correct level special-purpose filter like Least Mean Square filters are used for this purpose. The filter is designed such that subtracting the filtered noise from the speech plus noise picked up by the hearing-aid microphone will effectively cancel the noise with only the speech remaining shown in **figure 4**. This is known as adaptive noise cancellation.

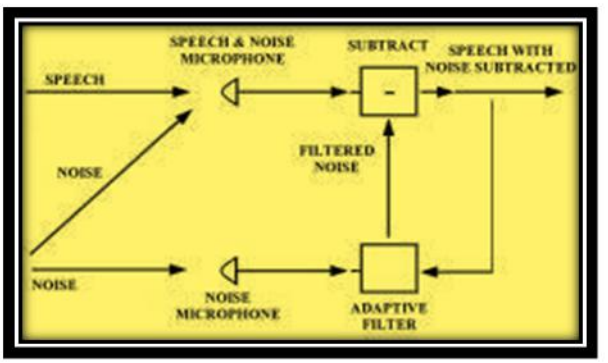

Figure 4.Adaptive noise cancellation block .

It has least two microphone in which one microphone must be placed at the noise source and other on the head with one microphone picking up more speech than noise. The adaptive filter is used so that the noise will not be cancelled completely but the level of the noise will be reduced. An improved speech-to-noise ratio will result, with improved intelligibility.

Conclusion

With the above comparison it with different aspects of speech-processing noise reduction can improve signal which can be boon to hearing impaired person. Adaptive filters like LMS,RMS make considerable use of our knowledge of the speech signal, including phonetic, lin-guistic, and statistical aspects of speech but using conventional methods of signal processing for noise reduction. The non-acoustic properties of speech could be used to develop can be more effective methods of extracting speech from noise.

Automatic speech noiseremoval is a very difficult problem, but given the recent rapid advances can be reliable enough fornoise removal at low cost of background noise.

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Hkkjr e xkeh.k ckt kjk l lcf/kr feFkd o rF;

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FOURTEENTH FINANCE COMMISSION IN REDEFINING CENTRE-STATE RELATIONSHIP: AN ANALYSIS

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Abstract
The ability of the Finance Commission in shaping fiscal federalism often remains unexploited due to the restrictive role that they chart out for themselves by confining their recommendations in and around the Terms of Reference as laid down in the Constitution. As evident from its report, the Fourteenth Finance Commission (FFC) has made a departure from that constrictive stance even while retracing steps of past Finance Commissions. Now at the end of FFC's operative term (2015-2020), it becomes imperative to assess the implementation status of its recommendations. In ever-changing international and inter-regional fiscal scenarios, fulfilling the objective of equity through federal transfers while ensuring stability is crucial. This paper, as such, attempts to assess the status of FFC recommendations while ascertaining how well they have played a role in redefining the Centre-State relationship of India.

Keywords: Fourteenth Finance Commissions, devolution, fiscal, finance.

1. Introduction:

India is a quasi-federal nation that is an integral whole but divided into different states only for the convenience of administration. The founding fathers of the Indian Constitution were aware of the issues related to uneven development of the native states and historically poorer hinterlands since the colonial rule. The coastal states were comparatively richer than the scarcity-hit provinces of Central India. This awareness of the Constitution framers made them understand the difficulty in rigidly dividing all financial resources and revenue among different regions and thus, an independent Finance Commission (FC) was created.

Since 1951, Finance Commissions (FC) have been constituted keeping in mind the unique macro context and fiscal conditions existing in the constituent period. Recognising the then prevailing dispiriting macroeconomic and fiscal position of the country coupled with striking global uncertainties, the Fourteenth Finance Commission (FFC) was appointed on 2nd January, 2013 under the chairmanship of Dr. Y. V. Reddy, to "address the issues that arose out of our understanding of the views of the stakeholders and the current situation as well as emerging challenges" (FFC, 2013). The priority has been given to the views and

expectations of the Union, States and local bodies i.e., the stakeholders, on the relevant Terms of Reference (TOR), while being conscious of the need to change the nature of federal fiscal relations consistent with emerging scenarios. Following from recommendations of previous FCs, the FFCenvisagedto improvethe fiscal position of the Union vis-à-vis fiscal imbalances of the States.
The objective of this paper is to make an assessment of the recommendations of the FFC in light of how they have been implemented.Since the FFC's operative period will end by 2020, it is imperative to examine how well they have fared at nodal points and whether the Centre has followed along its laid lines. This paper is divided into 3 sections. Section 2 undertakes an examination of FFC's recommendations vis-à-vis vertical and horizontal devolution and grants-in-aid to the states. The findings have been discussed in section 3 which also concludes the paper.

1.2 Literature review:
Experts suggest that the efficiency of a federal setup lies in assigning important revenue raising powers to the government and allocating major expenditure responsibilities to lower levels of government and equipping them to spend by transferring resources from the Centre (Oates, 1972). The FCs are thus required not only to bridge the gap between fiscal capacities and needs of the States, but also to look into, arbitrate and settle various issues which may cause dissent among the various constituents of a federation. Literature shows that central transfers as part of devolution plans have benefitted Indian states in general. For instance, Odisha and Bihar have observed an average gain from increased devolutions that adequately address their fiscal troubles (Chakraborty, 2016). A similar trend has been seen among other states too, such as Maharashtra. In the context of FFC, a World Bank study noted net benefits for most of the states. Interestingly, contrasting evidences has been witnessed in Karnataka (Ramachandra, 2015). Choudhury et al (2018) as observed certain unevenness in Centre-State fiscal allocations. However, economists have noted that until the FCC operational period ends, fiscal impact studies may not provide substantial results.
A brief review of the literature has brought out that most studies have found favourable implementational results in regard to the FFC. Nevertheless, a gap has been seen wherein a study covering the key aspects of vertical devolution, horizontal devolution and grants-in-aid hasn't been witnessed. Those mostly seen are discrete studies. The present paper envisages to fulfil this gap.

1.3 Theoretical background:
Finance Commission: The Indian Constitution states that the President should, "within two years from the commencement of this Constitution and thereafter at

the expiration of every fifth year or at such earlier time as the President considers necessary, by order constitute a Finance Commission, which shall consist of a Chairman and four other members to be appointed by the President" (COI, 1950).

Fourteenth Finance Commission: The FFC was constituted to make recommendations for the period 2015-20. Like its predecessors, the FFC was guided by the TOR while improving upon the approach of previous finance commissions on the basis of experience gained in this regard. It was primarily built upon to resolve issues pertaining to the prevailing macroeconomic situation of the country and the fiscal environment in particular, and the evolving circumstances relevant to the TOR. In addition, the FFC reviewed in detail the relevant deliberations in the meetings of the National Development Council, the views of the Administrative Reforms Commission (1966), National Commission on Review of the Working of the Constitution (Venkatachalaiah Commission 2002), Commission on Centre–State Relations (Sarkaria Commission 1988), Commission on Centre–State Relations (Punchhi Commission 2010), etc., to analyse Union–State fiscal relations in a fundamental manner.

2. Methodology:

The FFC in their report has explicitly stated that their recommended overall division of resources between the Union and the States represent "continuation of the past". In the devolution formula which contains elements of revenue and cost disabilities, recommendation of contributions and grants to augment the Consolidated Funds of the States to supplement the resources of local governments, continuity in line with past Commissions is observed. In this light, the following sections discuss how FFC has redefined the Centre-State relations.

2.1 Assessing vertical devolution:

It is well understood that vertical imbalances are addressed through Central transfers, viz., States' share in Central taxes and grants. The key factors determining States' share have varied across different FCs. It should be noted that since the FC-XI, there has been a radical departure. Instead of limiting the States' share to tax-specific transfers[1], the approach has shifted to widening the base to include the entire proceeds from gross tax revenue (barring surcharges and cesses[2]) in a common shareable pool of revenues, from which a fixed percentage share (as recommended by the FC) is devolved to the states. While a marginalincrease in tax devolution was recommended by subsequent FCs, the

[1]*Tax sharing up to FC-X was restricted to the proceeds of income tax and union excise duties.*
[2]*Article 270 provides that surcharges on taxes, duties and cesses levied for specific purposes should not form part of the divisible pool.*

FFC has recommended a sharp increase in tax devolution by 10 percentage points to 42 percent of the divisible pool (Table-1). The objective had been to increase the flow of unconditional transfers to states while leaving space for the Centre to carry out specific-purpose transfers to States through an alternate institution.

Table1: Vertical Tax Devolution

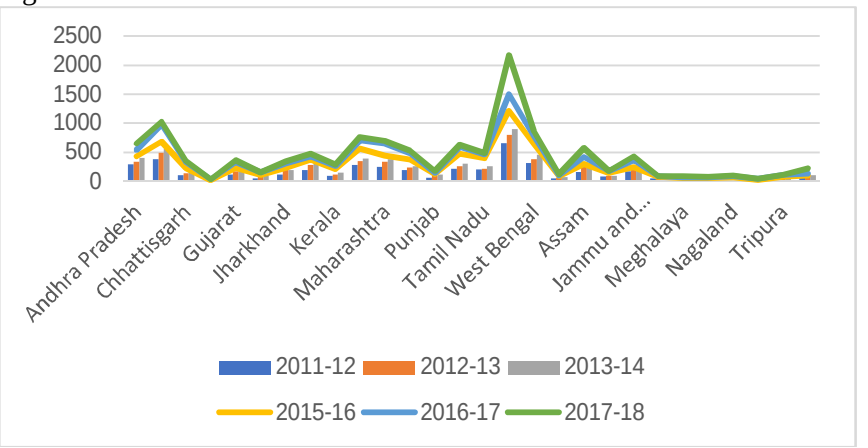
Finance Commission	Income Tax (%)	Basic Excise Duties (%)	Number of Commodities Covered
FC – I	55.0	40.0	3
FC-IV	75.0	20.0	All
FC-VIII	85.0	45.0	All
FC-X	77.5	47.5	All
All central taxes* (%)			
FC-XI	29.5		
FC-XII	30.5		
FC-XIII	32.0		
FC-XIV	42.0		

*: Share of states in net proceeds of all shareable union taxes and duties.

Source**:** Finance Commission Reports.

To assess the scenario of vertical devolution, it is essential to do a comparison betweendevolutions of 13th FC and 14thFC. This has been depicted in the figure below.

Figure 1: Trend of vertical devolution over 13th and 14th FC



Data source: RBI, 2019.

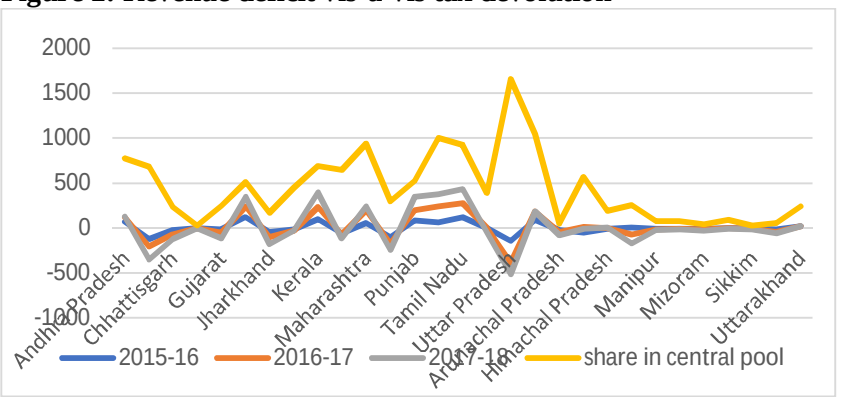
As can be observed, there has been a distinct increase in vertical devolution since the 13th FC. This has been in line with the FFC recommendations and its revised devolution formula. Despite this increase, following issues have been detected under our study:

I. An examination of the trend of vertical devolution suggests that the aggregate transfers to States from the central pool has been verymarginal, if we consider transfers in previous FC periods. During 2014-15 and 2015-16, the increase was a mere 2% and 1% respectively. This is rather minimal compared to the slump of 8% during the first half of the 13th FC.

II. Statistics reveal gains due to vertical devolutionto lie between 0.1% and 2.3% of States' GSDP. However, these gains turn out to be much lower if we compare the average gains between 2011-12 and 2014-15, with the maximum gain being only 1.2% of GSDP.

III. Linking vertical devolution to fiscal discipline of States in terms of revenue deficits, it is an essential responsibility on the part of the Central government to nudge the State governments bearing high deficits, to curb them. Instead, a tendency of cushioning them has been observed (figure 2). Although, increased grants to revenue deficit States is understandable, it is desirable that States should equitably and efficiently manage their own resources, rather than being handheld by the Centre. Such cushioning has been increasing rapidly, rather than diminishing.

Figure 2: Revenue deficit vis-à-vis tax devolution



Data source: RBI, 2019

Figure 2 reveals that while large revenue deficit bearing states like Uttar Pradesh and Madhya Pradesh have received an enormous amount of tax revenue transfers, low income states like Jharkhand and Chattisgarh have witnessed an opposite trend. Interestingly, north-eastern states like Arunachal Pradesh and Sikkim have not received any substantial tax devolution from the Centre, although it is these regions that require the most Central assistance due to their geographical remoteness and under-developed nature of human capital.

2.2 Assessing horizontal devolution:

The FFC has marked a clear departure from previous FCs by revamping the horizontal devolution formula and placing fitting weights that recognise the needs of the States. A comparison has been depicted in table 2. While fiscal discipline has been excluded, forest cover has been introduced as a new variable. Interestingly, 2011 population value has been accorded a weight of 10 indicating the need for factoring in India's burgeoning population during fiscal devolution.

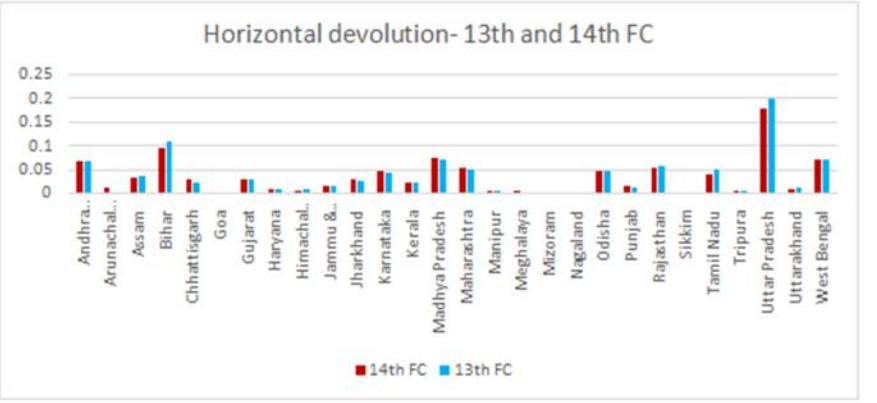
Table – 2: Horizontal Devolution Formula in the 13th and 14th Finance Commissions

Variable	Weights accorded	
	13th	14th
Population (1971)	25	17.5
Population (2011)	0	10
Fiscal capacity/Income distance	47.5	50
Area	10	15
Forest Cover	0	7.5
Fiscal Discipline	17.5	0
Total	100	100

Source: Reports of 13th and 14th Finance Commission.

In order to depictthe decomposition of resource transfers through horizontal tax devolution under FFC, we have presented figure 3 which compares the devolution structure with that of 13th FC recommendations.

Figure – 3: Horizontal Devolution



The significant impact due to increase in the divisible pool is on states like Uttar Pradesh, Bihar, Madhya Pradesh, West Bengal and Andhra Pradeshwhile Arunachal Pradesh, Chhattisgarh, Madhya Pradesh, Karnataka and Jharkhand are the major gainers due tothe forest cover factor. The increase in the divisible pool follows from the FFC's analysis that tax revenue for the period 2015-16 to 2019-20 will increase owing to rise in tax-specific buoyancies other than corporation and service taxes, and an expected revenue gain from implementation of the Goods and Services Tax (GST). It must be noted that, the FFC has removed the distinction between non-special (NSC) and special category (SC) States, according greater importance to fiscal capacity, with indicators of cost and revenue disabilities being assigned a combined weight of 72.5 percent as against 57.5 percent assigned by the 13th FC.

However, following issues afflict the horizontal devolution scenario of 14th FC:

I. Since 2011 population has been given substantial weight, southern Stateshave ended up receiving lesser funds as the growth of population is less in them. A comparison can be drawn between Uttar Pradesh and Tamil Nadu wherein a huge devolution disparity can be observed. UP has an enormous population growth rate of 20% while Tamil Nadu entertains a high 15%. Evidently, the share in resource devolution for Tamil Nadu may not be enough to fulfil its needs. Similarly, Bihar is 1.5 times bigger than Gujarat and 86% of Maharashtra's size, but receives thrice the tax share of Gujarat and 170% of the tax share of Maharashtra.

II. India has a high degree of horizontal fiscal imbalance with per capita income in the richest state being around five times larger than that of the poorest state. FFC has tried to address this imbalance through its recommendations whilst evidences from Central grant releases do not support this in reality (NITI aayog, 2018). High income states, with current devolution scenario, have avenues to incur high per capita expenditures on major social and economic overheads, while there is only a marginal increase in expenditure by poorer states.

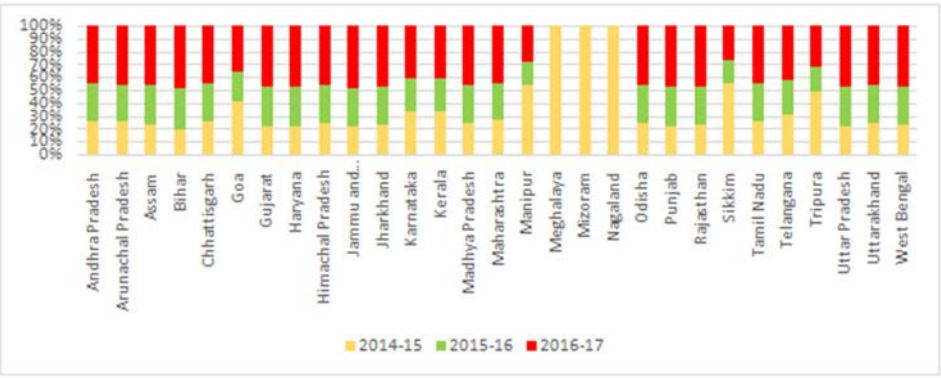
2.3 Grants-in-Aid scenario:

The FFC has recommended grants-in-aid of $ 1,948 billion during its award period (2015-20) for 11 States, which has been the highest ever amount recommended. Specifically, it has recommended grants for revenue deficit, local governments and disaster management only, dispensing with sector-specific and area/State specific FC grants due to multiplicity of channels of Central support. This had to be done as grants provided in such sections formed a very small part of the total expenditure by the States on respective sectors. Moreover, there was overlapping with other sectoral transfers and the effectiveness of such sector-based grants had been hard to quantify due to discontinuity in Finance

Commission as well as government priorities. The FFC had additionally recommended setting up an institutional arrangement for looking into need of funds by specific sectors and corresponding sanction of funds from the Centre to the States. An assessment of the existing scenario reveals the following afflicting issues:

I. Although the focus of grants was shifted to local governments, the volume of grants has been uneven across states, both temporally and spatially. With decentralisation being the norm today, disparity is seen across dispersal of funds and divergence of allocation among states. Interestingly, among all states, Uttar Pradesh has been receiving a very high amount of funds while large states like West Bengal and Madhya Pradesh haven't seen much of an increase in fund dispersal since the 13th FC. Such disparity disrupts the flow of convergence of growth rates among states and may tend to destabilise the entire growth process. North-eastern states of Meghalaya, Mizoram and Nagaland, have received negligible amount of grants from the Centre even though the FC has laid greater emphasis on their development.

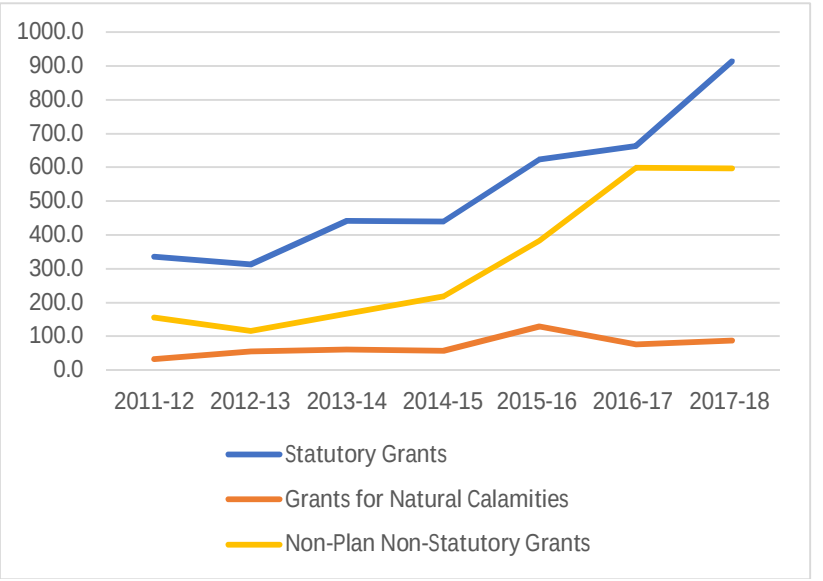
Figure 4: Grants to rural local bodies



Data source: Government of India, 2019

II. FFC has specifically called for fund allocation fordisasters, while no clarification on how and when to release the fund has been laid down. With humongous floods on the rise, it is expected that a continued and exponential increase in grants be seen. Figure below depicts a different trend.

Figure 5: Grants-in-aid to states



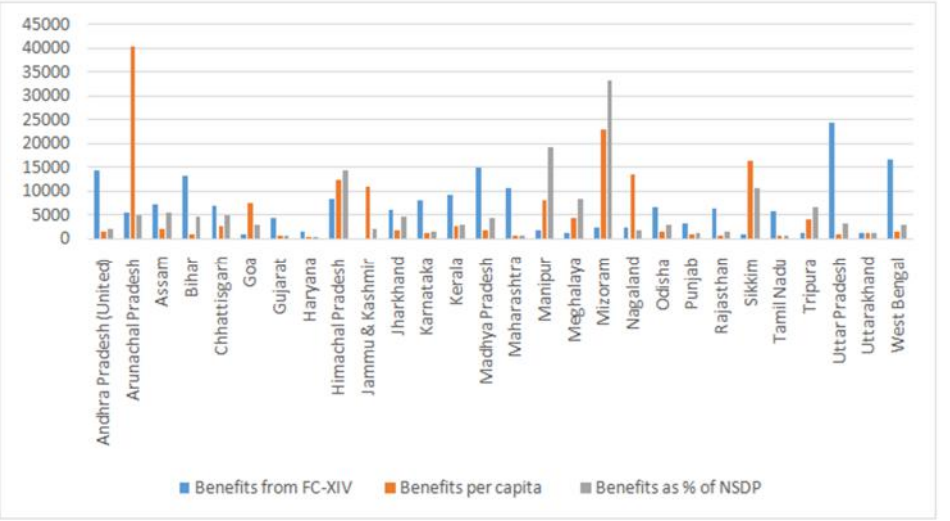
Statutory grants have been increasing in a traditional manner. However, disastergrants have maintained a low profile, following the trend of previous FC periods. This can be attributed to the uncertain nature of disasters. But it is imperative to understand that disasters should be dealt with beforehand through capacity creation and preparedness, which requires ample funds for training and infrastructure upgradation. Experience suggest that funds are allocated mostly after a disaster strikes, while emphasis isn't placed on disaster preparedness that well.

III. Interestingly, the grants have not been linked to improved service levels and it has not been made necessary to gauge the fact whether States with poorer service levels receive higher grants. As evidence suggests, states backward in education or health levels have not received higher grants, as they should have normatively.

2.4Assessment of gains from transfers:

The recommendations of the FFCare expected to add substantial spending capacity to States' budgets. In order to assess the distributional effects of such transfer, the changes can be scaled by on a per capita basis and as a percentage of Net State Domestic Product (NSDP) at current market price. These parameters are expected to present a clear picture of the changes adhering to spending capacity as well as impacts consequent upon the Centre-State relation as defined by the FC-XIV.

Figure 6: Distributional effects of FFCtransfers



Data source: Various reports and state budgets.

From the above table, it is seen that Uttar Pradesh, West Bengal and Madhya Pradesh are the biggest gainers along with Jammu & Kashmir, Himachal Pradesh and Assam. Taken as a measure of impact, benefit per capita shows that the major gainers turn out to be Kerala, Chhattisgarh and Madhya Pradesh along with Arunachal Pradesh, Mizoram and Sikkim (SCS).

In terms of the impact based on NSDP, the benefits of FFCtransfers are highest for Chhattisgarh, Bihar and Jharkhand among the General Category States (GCS) and for States like Arunachal Pradesh, Mizoram and Jammu & Kashmir among the SCS.Therefore, it is clear that the transfers have a more favourable impact on the States which are relatively less developed.

3. Findings and discussion:

In case of fiscal devolution, it is proposed that the devolution criteria has to "satisfy the test of progressivity, that it is inversely proportional to fiscal capacity and directly proportional to fiscal needs of a State" (Mohan et al, 2014). As such, fiscal policies should be undertaken in such a manner that the fiscal capacity of states is enhanced while also meeting fiscal needs of the Centre. As has been generally observed, the FFC devolution criteria does suit the basic requirements of both Centre and States, while redefining their relationship prominently, compared to previous FCs.

Apart from the observations in the previous section, following are some other important findings that we have observed as part of the study:

I. The FFC recommendations have resulted in an increase in tax devolution would that has enhanced the share of unconditional transfers to the states. This resonates with the view that tax devolution should be the primary route of transfer of resources to States since it is formula based and thus conducive to sound fiscal federalism. To the extent that formula-based transfers do not meet the needs of specific States, they need to be supplemented by grants-in-aid on an assured basis and in a fair manner. However, due to this States will have more funds as well as the freedom to use them owing to their preferences. As such, this calls for proper constraints to be put in place that would induce the States to use these resources for supporting development and welfare-oriented schemes.

II. Population criterion has tried to capture demographic changes since 1971 both in terms of migration and age structure by assigning a weight to the 2011 population. This has proved beneficial to states with burgeoning population while punishing those that have successfully controlled population growth.

III. Assigning a weight to forest cover is a welcome move. Since a large forest cover provides ecological benefits but with an opportunity cost in terms of area not available for other economic activities, including this parameter would help in justifying States' share.

IV. Income distance has been given a higher weight. This parameter represents fiscal capacity of the States. Although encouraging, certain criticisms can be levelled against it.

- Gross State Domestic Product (GSDP) does not correctly proxy the tax base of a State. A higher GSDP may be due to dominance of sub-sectors in the service sector not within the taxing power of the States.
- It does not take into consideration the tax effort. While tax capacity is the maximum potential tax revenue that a government can generate, tax effort indicates what part of maximum potential revenue a State has generated. Garg et al (2014) observes that tax effort/efficiency of a State is adversely influenced by the magnitude of transfers it receives from the Centre. As such, tax effort could have been included as an additional criterion.

It must be noted that, consequence of a much greater devolution to the States is that the fiscal space for the Centre will reduce in the same proportion. The Centrally sponsored schemes will have to diminish in value unless the revenues grow at a very fast rate. Based on the higher devolution, over 30 Centrally Sponsored Schemes have been identified for which funds ought tobe transferred to the States timely, in order to arrive at the greater devolution of 42%. The Government has decided that only 8 Centrally Sponsored Schemes be delinked from support of the Centre (PIB, 2015). However, keeping in mind that many of

these schemes are national priorities, and some are legal obligations (such as MGNREGA), it is imperative to monitor the fact that fund transfers are not overlapped. To this extent there has to be some fiscal re-engineering at the Centre.

It is necessary that grants-in-aid from Centre should be such that desired minimum level of expenditure in specific sectors with high degree of externalities is ensured in every State. Such transfers should be for supplementing the transfers recommended by the Finance Commission, and not supplanting or undermining them. Achieving this through the mechanism of Finance Commission grants may not be appropriate. It is also essential that flexibility to the States in regard to implementation of such grants is given. It is evident that there is need for a separate institutional setup for monitoring this.

4. Conclusion:

The Finance Commission is adequately empowered to go beyond the core issues of vertical and horizontal transfers between the stakeholders and make broader recommendations in the interests of a sound and stable fiscal environment. This not only includes revision of Centre-State relationships but redefining and restructuring them accordingly. Since the FC-I'srecommendationthat the States get a tenth of total taxes collected centrally to the FFCfixing that share at 42%, share from the divisible pool of taxes have substantially increased — a necessary change given the growing importance of direct taxes as well as the need for higher spending by State governments in local public goods. This has not only redefined the relationship between the two tiers appropriately but also reinforced the need for solid cooperation between them. The FFChas definitely made a partial departure from previous FCs in doing so. But the need for revisiting its mandate to factor in several much-needed changes such as encompassing of local bodies within the embrace of cooperative and competitive federalism is imperative.

In the light of the study, it can be concluded that the way forward for the Finance Commission is to design a basic incentive-compatible framework for the Union and State Governments to hold each other accountable over agreed fiscal targets. Accordingly, stressing on the need for stronger mechanisms for ensuring compliance with fiscal targets and enhancing the quality of fiscal adjustment, particularly for the Union Government is vital.As such, the role of the forthcoming 15thFinance Commission in making recommendations after implementation of the GST, which profoundly reset the rules of fiscal federalism, will be critical.

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SCHOOLS ROLE IN MAINTAING GOOD HEALTH AND HYGIENE IN THE SOCIEY

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Health and hygiene are the major issues to be observed by the administers. Even though health and hygiene education are focused by the administers it was not reaching the mass population. Health and hygiene are two areas of knowledge which are to be erudite along with Education should endow with solutions to the problems of society. In several societies there exists high incidences of water and sanitation related diseases, causing many children in particular, to fall ill or even die in rural areas. Improved hygiene practices are essential if transmission routes of water and sanitation related diseases are to be cut. Whereas appropriate hygiene education can bring about the intention to change hygiene behavior, for most hygiene behaviors appropriate water and sanitation facilities are needed to allow people to transform intention to change into real change.

After the family, schools are most important places of learning for children; they have a central place in the community. Schools are a stimulating learning environment for children and stimulate or initiate change. If sanitary facilities in schools are available, they can act as a model, and teachers can function as role models. Schools can also influence communities through outreach activities, since through their students, schools are in touch with a large proportion of the households in a community.

Thus with this intention data is collected from school teachers in rural area of Chipurapalli Mandal of vizianagaram district and the results are assimilated to infer the crux holes in failing the health and hygiene in rural areas.

Purpose and set-up of the Study

This study is meant to be a stimulating awareness on School Sanitation and hygiene (SSH). It gives the full range of components and elements of an SSH programme and seeks to set out the current state of knowledge and experience on these components. It illustrates these general insights with cases and examples from a wide range of programmes. It is hoped that you and your colleagues will adapt the approaches and ideas mentioned to your own specific situation and that it will help you set objectives and identify outputs and activities appropriate to your situation.

School hygiene education is a specific form of the wider school health education. It deals only with water and sanitation-related health problems in and around the school. School health education concerns all activities that promote health and reduce health risks of school children. Hygiene education primarily aims at changing behavior toward good or safe practices in relation to personal, water, food, domestic and public hygiene. It also aims to protect water supplies and promote safe management of the environment, in particular the management or disposal of solid and liquid waste. In the case of children, it may be better to talk of behavior development, since children often do not have bad behaviors, but should develop good ones. Behavior development can only be achieved if it is supported by the provision of hardware. It was decided to develop this study of promising approaches and experiences in order to make the many existing SSH initiatives widely accessible. To study the scope of SSH, primary data was collected and engraved it as follows:

Objectives of the Study:

1. To study the importance of sanitation and hygiene.
2. To find out the significance of difference between the teachers with respect to gender variable with respect to sanitation and hygiene.

Hypthesis of the Study: Basing on these objectives the investigator selected different variables into consideration and framed the following hypothesis:

1. There is no significant relation between sanitation and hygiene with regards to opinions of the teachers.
2. There is no significant difference between male and female teachers with regard to awareness towards the sanitation and hygiene education.

The investigator restricted her study in Vizianagaram with 100 teachers. To assess the study the investigator preferred the tool, questionnaire. Questionnaire consists of 30 questions.

The investigator made use of gender independent variables. To study the impact of variable the investigator listed out hypothesis in null form. The listed out hypothesis were testified statistically with the help of computation of Means, Standard deviations and Critical Ratio values. The calculated C.R value is less than 1.96 it is said to be not significant at both levels (0.05 &0.01). But when C.R. value exceeds 1.96 & 2.58 it can be stated that the significant at both levels respectively.

Method of Investigation:

The present investigation falls under the survey method and it details with making a survey of opinions of teachers towards sanitation and hygiene education.

Sample and Sampling:

"A sample is a small proportion of a population selected for observation and analysis". It is a collection consisting of a part of subset of the objects of individuals of population which is selected for the express purpose of representing the population.

Sampling is the process of selecting a sample from the population. For the present investigation the sample selected 100 teachers. In selecting the sample, the investigator adopted the random sampling method, which is the most popular basic method of sampling. It is considered as the most trust worthy method of securing representatives of the whole population. The method of selection provides an un-biased cross section of the population.

For the present study the investigator selected schools randomly in and around Vizianagaram. The sample distribution details given in the table 1.

Table no.1: showing the sample distribution

	GENDER		TOTAL
VARIABLE	MALE	FEMALE	
TOTAL	40	60	100

Tool Used:

The questionnaire was prepared by the investigator to seek information about the sanitation and hygiene. The researcher to construct items for questionnaire consulted some books on health education and suggestions from experts were also taken into consideration.

The items thus prepared were exposed to the experts in the field i.e., Teachers, Educators who deal with subjects, schools, administrations and organization. Then out of the pooled items the most suitable 30 items were selected. There are three alternative answers mostly, rarely and never provided for each statement. The final form of questionnaire consists of 30 statements. They cover the two areas such as

A. Sanitation
B. Hygiene

The following table gives the details of the statements of physical and mental health.

Table no.2: shows the statements of Sanitation and Hygiene Education.

Synod	**Question number**	**Number of Questions**	**Related Area**
1.	1 to 15	15	Sanitation
2.	16 to 30	15	Hygiene
Total	1 to 30	30	

Verification of Hypothesis: Hypothesis No.1: There is no significant relation between sanitation and hygiene with regards to opinions of the teachers.This hypothesis is verified by means of mean, SD, df and t-value.

TABLE N0.3**:** Table showing the relationship between sanitation and hygiene

The value of 'r' is significant and hence the hypothesis no.1 is rejected.

VARIABLE	(N)	(DF)	R	LEVEL OF SIGNIFICANCE
SANITATION HYGIENE	100	98	0.53*	>0.01

**. CORRELATION IS SIGNIFICANT AT THE 0.01 LEVEL.

Thus, there is significant relationship between sanitation and hygiene. Sanitation and hygiene are positively and moderately correlated. This may infer that high Sanitation may be related with high hygiene. Thus our path of study is in right direction and the investigator analyzed the independent variables as follows:

HYPOTHESIS NO.2: There is no significant difference between male and female teachers with regard to awareness towards the sanitation and hygiene education.This hypothesis is verified by means of mean, SD, df and t-value.

TABLE N0.4:Table showing the comparison between male and female teachers regarding the awareness on sanitation and hygiene education

** Significant at both levels

CATEGORY	N	MEAN	S.D	t-value
MALE	40	55.17	8.02	3.89**
FEMALE	60	62.81	11.63	

As the computed t-value 3.89 is greater than 1.96 and 2.58, it can be stated that there is a significant difference between Male and Female teachers of Vizianagaram Mandal. Hence the null hypothesis no. 2 i.e., "There is no significant difference between male and female teachers with regard to awareness towards the sanitation and hygiene education." is **rejected** at both levels.

Findings:

Hypothesis no.1.is rejected, hence there is a significant relationship between sanitation and hygiene.

Hypothesis no.2.is rejected, hence there is significant relationship between male and female teachers with regard to awareness towards the sanitation and hygiene education.

Conclusions:

Sanitation and hygiene are supposed to maintain properly, as UNICEF suggested SSH groups to be maintained in all schools with support from administration,

parents and local leaders and pupil should be a part of it. All the teachers irrespective of their profession they should be a part of this group and became a part of healthy primary education.

Suggestions:

Investigator suggested through SSH groups what are the issues needed attention.

1. For sanitation and hygiene the following need attention:

- Presence of latrines and ratio of latrines for boys and girls
- Cleanliness of the latrines and presence of cleaning materials
- Drainage of wastewater
- Garbage disposal
- Accessibility of the latrines for the entire school population
- Appropriateness of the design
- For water supply the points needing attention include:
- Presence of a tap, pump or tank
- The appropriateness or the design and accessibility for small children
- Condition of the source
- Availability of water for:

- flushing latrines
- anal cleansing
- hand washing
- drinking water

2. Maintenance arrangements, including availability of spare parts for assessment of the hygiene behavior of boys and girls we can look at:

- Safe drinking
- Safe water handling and storage
- Washing hands after defecation and after handling food children using latrines for defecation
- Children using latrines or urinals for urination regular cleaning of facilities
- Covering food Assessment of the curriculum could be done using the following points of attention:
- Hygiene education is part of the curriculum
- Hygiene education is an examinable topic
- Actual behavior, knowledge and attitudes form the basis of the hygiene education programme
- Participatory methods are used
- Hygiene education is based on living conditions and daily behavior

3. Application and reinforcement of what has been learned can be organized through:

- Students checking each other for personal hygiene.
- Organizing extracurricular activities such as essay competitions, quiz contests, plays and dramas, songs, debates, radio programmes, etc.
- The use of radio and television may stimulate a wider impact on society by an SSH programme. An example could be a drawing competition in schools. Children could select the best drawing by one of their classmates. The chosen work is presented on television.
- Conducting surveys in the community.

Good SSH programmes therefore include strategies for reaching out-of-school children. Reaching out from schools to communities could be followed by reaching out from communities to out-of-school children.

4. Possible activities are:

- Asking schools to offer expertise on curriculum development and didactic approaches for activities taking place outside the school, like health promotion in informal education programmes;
- Putting up posters made by students, in public places;
- Using voluntary organizations for starting hygiene campaigns.

For creating favorable conditions for SSH there is a need for political support, in particular when allocation of funds and changes in curriculum are required. Policy makers and politicians can provide support through:

- Commitment to and promotion of the provision of water supply and sanitation facilities;
- Formulation of objectives and standards for construction of facilities;
- Creation of a conducive environment through hygiene education activities to ensure that facilities are properly used;
- Monitoring and regulating implementing agencies;
- Institutionalization of teacher training;
- Appropriate legislation

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CULTURAL & HISTORICAL LEGACY OF INDIGENOUS PEOPLE (ADIVASIS) OF INDIA: A CRITICAL ANALYSIS

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Abstract
Adivasi is the collective term for the indigenous peoples of India. In India, Tribe referred as Adivasi although the term indigenous and tribe have different meanings, indigenous means descent from populations, who inhabited the country or region at the time of conquest, colonisation and tribe means who are distinguished by their social, cultural and economic conditions from other sections of the community. Scheduled Tribes make up 8.6% of India's population, or 104 million people, according to the 2011 census, and a large percentage of the Nepalese population. They comprise a substantial minority population of India and Nepal and a minority group of the Sri Lankan society called the Vedda. The same term Adivasi is used for the ethnic minorities of Bangladesh and the native Tharu people of Nepal. The word is also used in the same sense in Nepal, as is another word, janajati, although the political context differed historically under the Shah and Rana dynasties. Adivasi can be categorized into three grouping i.e. Austro-Asiatic, Dravidian and Sino-Tibetan. Each tribe has its own language and culture, i.e. festivals, cuisine, dance and music. Adivasi societies are in Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, West Bengal, Andhra Pradesh, Telangana, and some north-eastern states, and the Andaman and Nicobar Islands. Many smaller tribal groups are quite sensitive to ecological degradation caused by modernization. Both commercial forestry and intensive agriculture have proved destructive to the forests that had endured swidden agriculture for many centuries. Adivasis in central part of India have been victims of the Salwa Judum campaign by the Government against the Naxalite insurgency.

Key Words: Scheduled Tribes, Naikpod, Chenchus, Gonds, Bhir, Adivasi, Girijan, etc.

Introduction:

The word Adivasi means the first inhabitants or the Indigenous People, a phrase recognised by the Supreme Court of India. Although terms such as atavika, vanavasi ("forest dwellers"), or girijan ("mountain people") are also

used for the tribes of India, adivasi carries the specific meaning of being the original and autochthonous inhabitants of a given region. It is a modern Sanskrit word specifically coined for that purpose in the 1930s, from adi 'beginning, origin' and vasin 'dweller', thus literally meaning ‘original inhabitant’. Over time, unlike the terms "aborigines" or "tribes", the word "adivasi" has developed a connotation of past autonomy disrupted during the British colonial period in India and not yet having been restored.

In India, opposition to usage of the term is varied. Critics argue that the "original inhabitant" contention is based on the fact that they have no land and are therefore asking for a land reform. The adivasis argue that they have been oppressed by the "superior group" and that they require and demand a reward, more specifically land reform. Adivasi issues are not related to land reforms but to the historical rights to the forests that were alienated during the colonial period and India finally made a law to "undo the historical injustice" committed to the Adivasis.

In Northeast India, the term adivasi applies only to the Tea-tribes imported from Central India during colonial times.

Geographical overview

Substantial lists of Scheduled Tribes in India are recognized as tribal under the Constitution of India. Tribal people constitute 8.6% of the nation's total population, over 104 million people according to the 2011 census. One concentration lives in a belt along the Himalayas stretching through Jammu & Kashmir, Uttarakhand in the west, to Assam, Meghalaya, Tripura, Arunachal Pradesh, Mizoram, Manipur, and Nagaland in the northeast. In the northeastern states of Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland, more than 90% of the population is tribal. However, in the remaining northeast states of Assam, Manipur, Sikkim, and Tripura, tribal peoples form between 20 and 30% of the population. Other tribal peoples, including the Santhals, Oraon, Munda, and Ho live in Jharkhand and West Bengal. Central Indian states have the country's largest tribes, and, taken as a whole, roughly 75% of the total tribal population live there, although the tribal population there accounts for only around 10% of the region's total population. Smaller numbers of tribal people are found in Odisha in eastern India; Karnataka, Tamil Nadu, and Kerala in southern India; in western India in Gujarat and Rajasthan, and in the union territories of Lakshadweep and the Andaman Islands and Nicobar Islands. About one percent of the populations of Kerala and Tamil Nadu are tribal, whereas about six percent in Andhra Pradesh and Karnataka are members of tribes.

Historical Background

Ancient India

Although, considered uncivilized and primitive, Adivasis were usually not held to be intrinsically impure by surrounding (usually Dravidian or Aryan) caste Hindu populations, unlike Dalits, who were. Thus, the Adivasi origins of Valmiki, who composed the Ramayana, were acknowledged, as were the origins of Adivasi tribes such as the Garasia and Bhilala, which descended from mixed Rajput and Bhil marriages. Unlike the subjugation of the Dalits, the Adivasis often enjoyed autonomy and, depending on region, evolved mixed hunter-gatherer and farming economies, controlling their lands as a joint patrimony of the tribe. In some areas, securing Adivasi approval and support was considered crucial by local rulers, and larger Adivasi groups were able to sustain their own kingdoms in central India. The Meenas and Gond Rajas of Garha-Mandla and Chanda are examples of an Adivasi aristocracy that ruled in this region, and were "not only the hereditary leaders of their Gond subjects, but also held sway over substantial communities of non-tribals who recognized them as their feudal lords."

Medieval India

The historiography of relationships between the Adivasis and the rest of the Indian society is patchy. There are references to alliances between Ahom Kings of Brahmaputra valley and the hill Nagas. This relative autonomy and collective ownership of Adivasi land by Adivasis was severely disrupted by the advent of the Mughals in the early 16th century. Rebellions against Mughal authority include the Bhil Rebellion of 1632 and the Bhil-Gond Insurrection of 1643 which were both pacified by Mughal soldiers. With the advent of the Kachwaha Rajputs and Mughals into their territory, the Meenas were gradually sidelined and pushed deep into the forests. As a result, historical literature has completely bypassed the Meena tribe. The combined army of Mughals and Bharmal attacked the tribal king Bada Meena and killed him damaging 52 kots and 56 gates. Bada's treasure was shared between Mughals and Bharmal.

British period

From the very early days of British rule, the tribesmen resented the British encroachments upon their tribal system. They were found resisting or supporting their brethren of Tamar and Jhalda in rebellion. Nor did their raja welcome the British administrative innovations. Beginning in the 18th century, the British added to the consolidation of feudalism in India, first under the Jagirdari system and then under the zamindari system. Beginning with the Permanent Settlement imposed by the British in Bengal and Bihar, which later became the template for a deepening of feudalism throughout India, the

older social and economic system in the country began to alter radically. Land, both forest areas belonging to adivasis and settled farmland belonging to non-adivasi peasants, was rapidly made the legal property of British-designated zamindars (landlords), who in turn moved to extract the maximum economic benefit possible from their newfound property and subjects. Adivasi lands sometimes experienced an influx of non-local settlers, often brought from far away (as in the case of Muslims and Sikhs brought to Kol territory) by the zamindars to better exploit local land, forest and labour. Deprived of the forests and resources they traditionally depended on and sometimes coerced to pay taxes, many adivasis were forced to borrow at usurious rates from moneylenders, often the zamindars themselves. When they were unable to pay, that forced them to become bonded labourers for the zamindars. Often, far from paying off the principal of their debt, they were unable even to offset the compounding interest, and this was made the justification for their children working for the zamindar after the death of the initial borrower. In the case of the Andamanese adivasis, long isolated from the outside world in autonomous societies, mere contact with outsiders was often sufficient to set off deadly epidemics in tribal populations, and it is alleged that some sections of the British government directly attempted to destroy some tribes.

Land dispossession and subjugation by British and zamindar interests resulted in a number of adivasi revolts in the late eighteenth and early nineteenth centuries, such as the Santal hul or Santhal rebellion of 1855–56. Although these were suppressed ruthlessly by the governing British authority (the East India Company prior to 1858, and the British government after 1858), partial restoration of privileges to adivasi elites (e.g. to Mankis, the leaders of Munda tribes) and some leniency in tax burdens resulted in relative calm, despite continuing and widespread dispossession, from the late nineteenth century onwards. The economic deprivation, in some cases, triggered internal adivasi migrations within India that would continue for another century, including as labour for the emerging tea plantations in Assam.

Participation in Indian Independence Movement

There were tribal reform and rebellion movements during the period of the British Empire, some of which also participated in the Indian independence movement or attacked mission posts. There were several Adivasis in the Indian independence movement including Dharindhar Bhyuan, Laxman Naik, Jantya Bhil, Bangaru Devi and Rehma Vasave.

List of rebellions

During the period of British rule, India saw the rebellions of several then backward castes, mainly tribal peoples that revolted against British rule. These were:

- Great Kuki Invasion of 1860s
- Halba rebellion (1774–79)
- Chakma rebellion (1776–1787)
- Chuar rebellion in Bengal (1795–1800)
- Bhopalpatnam Struggle (1795)
- Khurda Rebellion in Odisha (1817)
- Bhil rebellion (1822–1857)
- Ho-Munda Revolt(1816-1837)
- Paralkot rebellion (1825)
- Khond rebellion (1836)
- Tarapur rebellion (1842–54)
- Maria rebellion (1842–63)
- First Freedom Struggle By Sidu Murmu and Kanu Murmu (1856–57)
- Bhil rebellion, begun by Tantya Tope in Banswara (1858)
- Koli revolt (1859)
- Gond rebellion, begun by Ramji Gond in Adilabad (1860)
- Muria rebellion (1876)
- Rani rebellion (1878–82)
- Bhumkal (1910)
- The Kuki Uprising (1917–1919) in Manipur
- Rampa Rebellion of 1879, Vizagapatnam (now Visakhapatnam district)
- Rampa Rebellion (1922–1924), Visakhapatnam district
- Santhal Revolt (1885–1886)
- Munda rebellion
- Yadav rebellion
- Thanu Nayak arm struggle against Nizam in Telangana in 1940s

Scheduled tribes

The term 'Scheduled Tribes'(ST's) first appeared in the Constitution of India. Article 366 (25) defined scheduled tribes as "such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this constitution". Article 342, which is reproduced below, prescribes procedure to be followed in the matter of specification of scheduled tribes.

Constitutional Safeguards for STs

Educational & Cultural Safeguards

Hindu Marriage Act is not applicable to the members of the Scheduled Tribe as per Section 2(2) of the Hindu Marriage Act. If that be so, the directions issued by the Family Court under Section 9 of the Hindu Marriage Act, is not applicable to the appellant." The tribal people observe their festivals, which have no direct conflict with any religion, and they conduct marriage among them according to their tribal custom. They have their own way of life to maintain all privileges in matters connected with marriage and succession, according to their customary tribal faith.

Art. 15(4) - Special provisions for advancement of other backward classes (which includes STs);

Art. 29 - Protection of Interests of Minorities (which includes STs);

Art. 46 - The State shall promote, with special care, the educational and economic interests of the weaker sections of the people, and in particular, of the Scheduled Castes, and the Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation,

Art. 350 - Right to conserve distinct Language, Script or Culture;

Art. 350 - Instruction in Mother Tongue.

Social Safeguard

Art. 23 - Prohibition of traffic in human beings and beggar and other similar form of forced labour

Art. 24 - Forbidding Child Labour.

Economic Safeguards

Art.244 - Clause(1) Provisions of Fifth Schedule shall apply to the administration & control of the Scheduled Areas and Scheduled Tribes in any State other than the states of Assam, Meghalaya, Mizoram and Tripura which are covered under Sixth Schedule, under Clause (2) of this Article.

Art. 275 - Grants in-Aid to specified States (STs &SAs) covered under Fifth and Sixth Schedules of the Constitution.

Political Safeguards

Art.164 (1) - Provides for Tribal Affairs Ministers in Bihar, MP and Orissa

Art. 330 - Reservation of seats for STs in Lok Sabha

Art. 332 - Reservation of seats for STs in State Legislatures

Art. 334 – 10 years period for reservation (Amended several times to extend the period

Art. 243 - Reservation of seats in Panchayats

Art. 371 - Special provisions in respect of NE States and Sikkim

Fifth and Sixth schedules of Indian constitution

Safeguards under Various laws

The Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act,1989 and the Rules 1995 framed there under. Bonded Labour System (Abolition) Act 1976 (in respect of Scheduled Tribes);
The Child Labour (Prohibition and Regulation) Act1986;
States Acts & Regulations concerning alienation & restoration of land belonging to STs; Forest Conservation Act 1980; Forests Right's Act 2006;
Panchayatiraj (Extension to Scheduled Areas) Act 1996;
Minimum Wages Act 1948.

Particularly vulnerable tribal groups

The Scheduled Tribe groups who were identified as more isolated from the wider community and who maintain a distinctive cultural identity have been categorised as "Particularly Vulnerable Tribal Groups" (PTGs) previously known as Primitive Tribal Groups) by the Government at the Centre. So far seventy-five tribal communities have been identified as 'particularly vulnerable tribal groups' in different States of India. These hunting, food-gathering, and some agricultural communities, have been identified as less acculturated tribes among the tribal population groups and in need of special programmes for their sustainable development. The tribes are awakening and demanding their rights for special reservation quota for them.[23]

Tribal classification criteria and demands

The criteria presently followed for specification of a community as a Scheduled Tribe are: (i) indications of primitive traits, (ii) distinctive culture, (iii) geographical isolation, (iv) shyness of contact with the community at large, and (v) backwardness.

Population complexities, and the controversies surrounding ethnicity and language in India, sometimes make the official recognition of groups as adivasis (by way of inclusion in the Scheduled Tribes list) political and contentious. However, regardless of their language family affiliations, Australoid and Negrito groups that have survived as distinct forest, mountain or island dwelling tribes in India and are often classified as adivasi. The relatively autonomous Mongoloid tribal groups of Northeastern India (including Khasis, Apatani and Nagas), who are mostly Austro-Asiatic or Tibeto-Burman speakers, are also considered to be adivasis: this area comprises 7.5% of India's land area but 20% of its adivasi population. However, not all autonomous northeastern groups are considered adivasis; for instance, the Tibeto-Burman-speaking Meitei of Manipur were once tribal but, having been settled for many centuries, are caste Hindus.

It is also difficult, for a given social grouping, to definitively decide whether it is a "caste" or a "tribe". A combination of internal social organization, relationship with other groups, self-classification and perception by other groups has to be taken into account to make a categorisation, which is at best inexact and open to doubt. These categorizations have been diffused for thousands of years, and even ancient formulators of caste-discriminatory legal codes (which usually only applied to settled populations, and not adivasis) were unable to come up with clean distinctions.

Demands for tribal classification

The additional difficulty in deciding whether a group meets the criteria to be adivasi or not are the aspiration movements created by the federal and state benefits, including job and educational reservations, enjoyed by groups listed as scheduled tribes (STs). In Manipur, Meitei commentators have pointed to the lack of scheduled tribe status as a key economic disadvantage for Meiteis competing for jobs against groups that are classified as scheduled tribes.[59] In Assam, Rajbongshi representatives have demanded scheduled tribe status as well. In Rajasthan, the Gujjar community has demanded ST status, even blockading the national capital of Delhi to press their demand. However, the Government of Rajasthan declined the Gujjars' demand, stating the Gujjars are treated as upper caste and are by no means a tribe. In several cases, these claims to tribalhood are disputed by tribes who are already listed in the schedule and fear economic losses if more powerful groups are recognized as scheduled tribes; for instance, the Rajbongshi demand faces resistance from the Bodo tribe, and the Meena tribe has vigorously opposed Gujjar aspirations to be recognized as a scheduled tribe.

Endogamy, Exogamy and Ethno-genesis

Part of the challenge is that the endogamous nature of tribes is also conformed to by the vast majority of Hindu castes. Indeed, many historians and anthropologists believe that caste endogamy reflects the once-tribal origins of the various groups who now constitute the settled Hindu castes. Another defining feature of caste Hindu society, which is often used to contrast them with Muslim and other social groupings, is lineage/clan (or gotra) and village exogamy. However, these in-marriage taboos are also held ubiquitously among tribal groups, and do not serve as reliable differentiating markers between caste and tribe. Again, this could be an ancient import from tribal society into settled Hindu castes. Tribes such as the Muslim Gujjars of Kashmir and the Kalash of Pakistan observe these exogamous traditions in common with caste Hindus and non-Kashmiri adivasis, though their surrounding Muslim populations do not.

Some anthropologists, however, draw a distinction between tribes who have continued to be tribal and tribes that have been absorbed into caste society in terms of the breakdown of tribal and therefore caste boundaries, and the proliferation of new mixed caste groups. In other words, ethno-genesis the construction of new ethnic identities in tribes occurs through a fission process where groups splinter-off as new tribes, which preserves endogamy, whereas with settled castes it usually occurs through intermixture in violation of strict endogamy.

Adivasi Roots of Modern Hinduism

Some historians and anthropologists assert that much of what constitutes folk Hinduism today is actually descended from an amalgamation of adivasi faiths, idol worship practices and deities, rather than the original Indo-Aryan faith. This also includes the sacred status of certain animals such as monkeys, cows, fish, matsya, peacocks, cobras (nagas) and elephants and plants such as the sacred fig (pipal), Ocimum tenuiflorum (tulsi) and Azadirachta indica (neem), which may once have held totemic importance for certain adivasi tribes.

Adivasi saints

A saint is an Indian holy man, and a title of a devotee or ascetic, especially in north and east India. Generally a holy or saintly person is referred to as a mahatma, paramahamsa, or swami, or given the prefix Sri or Srila before their name. The term is sometimes misrepresented in English as "Hindu saint", although "sant" is unrelated to "saint".

- Sant Buddhu Bhagat, led the Kol Insurrection (1831–1832) aimed against tax imposed on Mundas by Muslim rulers.
- Sant Dhira or Kannappa Nayanar, one of 63 Nayanar Shaivite sants, a hunter from whom Lord Shiva gladly accepted food offerings. It is said that he poured water from his mouth on the Shivlingam and offered the Lord swine flesh.
- Sant Dhudhalinath, Gujarati, a 17th or 18th century devotee (P. 4, The Story of Historic People of India-The Kolis)
- Sant Ganga Narain, led the Bhumij Revolt (1832–1833) aimed against Christian missionaries and British colonialists.
- Sant Gurudev Kalicharan Brahma or Guru Brahma, a Bodo who founded the Brahma Dharma aimed against Christian missionaries and colonialists. The Brahma Dharma movement sought to unite peoples of all religions to worship God together and survives even today.
- Sant Kalu Dev, Punjab, related with Fishermen community Nishadha
- Sant Kubera, ethnic Gujarati, taught for over 35 years, and had 20,000 followers in his time.

- Sant Jatra Oraon, Oraon, led the Tana Bhagat Movement (1914–1919) aimed against the Christian missionaries and British colonialists
- Sant Tantya Mama (Bhil), a Bhil after whom a movement is named after – the "Jananayak Tantya Bhil"
- Sant Tirumangai Alvar, Kallar, composed the six Vedangas in beautiful Tamil verse
- Saint Kalean Guru (Kalean Murmu) is the most beloved person among Santal Tribes community who was widely popular 'Nagam Guru' Guru of Early Histories in fourteen century by the references of their forefathers.

Conclusion

Unlike castes, which form part of a complex and interrelated local economic exchange system, tribes tend to form self-sufficient economic units. For most tribal people, land-use rights traditionally derive simply from tribal membership. Tribal society tends to the egalitarian, with its leadership based on ties of kinship and personality rather than on hereditary status. Tribes typically consist of seminary lineages whose extended families provide the basis for social organization and control. Tribal religion recognizes no authority outside the tribe.Any of these criteria may not apply in specific instances. Language does not always give an accurate indicator of tribal or caste status. Especially in regions of mixed population, many tribal groups have lost their original languages and simply speak local or regional languages. In parts of Assam—an area historically divided between warring tribes and villages—increased contact among villagers began during the colonial period, and has accelerated since independence in 1947. A pidgin Assamese developed, whereas educated tribal members learnt Hindi and, in the late twentieth century, English. Self-identification and group loyalty do not provide unfailing markers of tribal identity either. In the case of stratified tribes, the loyalties of clan, kin, and family may well predominate over those of tribe. In addition, tribes cannot always be viewed as people living apart; the degree of isolation of various tribes has varied tremendously. The Gonds, Santals, and Bhils traditionally have dominated the regions in which they have lived. Moreover, tribal society is not always more egalitarian than the rest of the rural populace; some of the larger tribes, such as the Gonds, are highly stratified.

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FACTORS AFFECTING ACCEPTANCE OF ELECTRIC VEHICLES IN GUJARAT

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Abstract
An effort is made to study the customer acceptance of electric vehicles in Gujarat. Electric vehicles have recently attracted the attention of automobile sellers and buyers since the Government announced its plans to go electric till next decade. This becomes even more important looking at the high consumption and steadily rising prices of fuel. The dependency of people on fuel vehicles leads to excessive air pollution. The objective of this paper is to study the acceptance level of people in Gujarat towards electric vehicles on the basis of preferential and monetary variables. The research is intended to identify the key factors affecting the acceptance of electric vehicles in Gujarat. The analysis of the data collected shows that the number of electric vehicle buyers is expected to increase by 45% in the light of benefits offered by the use of electric vehicles like fuel economy, less carbon emission, power performance, ease of driving and non dependence on foreign oil. The results show that the acceptance of electric vehicles depends on cost of vehicles, charging infrastructure and availability of Government subsidies.

Keywords: electric vehicles, acceptance, battery, charging infrastructure, customer preferences.

Introduction

We all in general come across a set of choices every day and from those choices, we have to take decision to choose one option among the available set of alternatives. One of these choices is choosing the mode of transportation; from home to workplace or to the shopping mall or to drop children to school or to any other place. We consider a variety of factors like availability of transport, time taken to reach the destination, comfort level and of course our pocket. Cost and time factors are among the most important factors to come down to a particular choice. One more factor which is of equal significance while making this choice is our status in the society. People in India own two or four wheelers suiting to their cost and time factors including some with multiple vehicles.

Fuel is seeing a stubborn increase in price since year 2004 which has become one of the biggest reasons for people in India to look for alternatives to

fuel vehicles. As seen in figure 1, the price of petrol has become more than double while the diesel prices have gone up by more than 2.5 times till 2014.

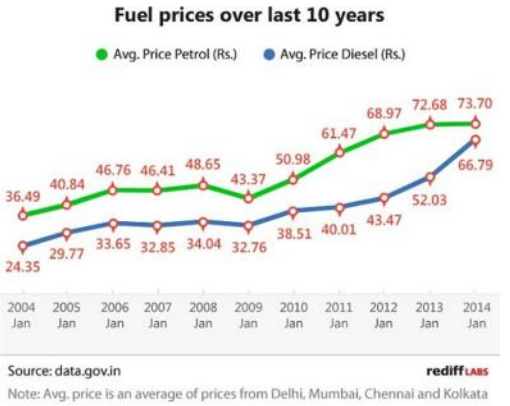

Figure 1: Fuel Prices in India (Source: data.gov.in, complied by rediffLABS) (rediff, 2014)

On the other hand, pollution is making India greyer day by day. According to The Hindu Business Line, pollution levels in India have risen by as much as 13% in five years between 2010 and 2015 (Hindu Business Line, 2017). To keep the pollution level under control, the Delhi Government initiated the odd-even system first time in the India. All these have opened the possibilities for India towards electric vehicles. There has been an increase in electric vehicle industry recent years. This is highly necessary in due to increase in global greenhouse gas levels. This gives a ray of hope that over a period of time, this will give rise to a transition from fuel vehicles to electric vehicles in the light of technological advancements.

The automotive industry consists of variety of companies some involved in design and development of vehicles while some others are into manufacturing, marketing, or selling these vehicles. The other companies which do not belong to automotive industry but are highly affected by its performance in the market are industries providing maintenance to vehicles like end user delivery, repair and maintenance work and fuel stations. China is ranked as the largest market for all-electric vehicles. The growing demand for electric cars in markets of China, United States and Norway is because of the Government incentives including subsidies, exemptions from tolls and parking fees (statista, 2018). The auto industry is set to witness major changes in the form of electric vehicles. Electric vehicles in India are expected to get new green number plates. According to the draft policy on e-vehicles by NITI Aayog, Government of India may also get free parking for three years along with toll waivers (ibef, 2018).

The objective of the study is to check customer acceptance of Electric Vehicles by fetching data from cities like Ahmedabad, Gandhinagar, Vadodara and Bhavnagar. Further, through this study, we intend to analyze the impact of factors like price of vehicle, income of the customer, Government subsidy, number of charging points, battery recharging time upon customer acceptance for electric vehicles.

Electric Vehicles

Electric vehicles were first seen in 19th century offering the desirable features like comfort and ease of operation over fuel vehicles of that time. Initially in India, the most successful electric vehicles were trains. Due to technological advancements and shift in focus to renewable energy sources, electric vehicles regained prominent existence in 21st century. Countries like United States and European Union declared Government incentives to make its acceptance more widespread. An electric vehicle uses electric or traction motors to propel the vehicle. An electric vehicle may be powered through a collector system by electricity from off-vehicle sources, or may be self-contained with a battery, solar panels or an electric generator to convert fuel to electricity (Asif Faiz, 1996). Electric Vehicles may range from road vehicles to those which run on tracks, in water and in air.

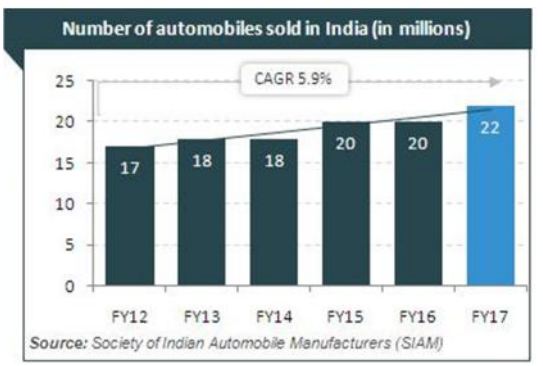

Figure 2: No of Automobiles Sold in India (Source: Society of Indian Automobile Manufacturers)

As seen in figure 2, the number of automobiles sold in India is seeing a steady increase since 2012 with around 22 million automobiles sold in India last year. The increased demand for vehicles on the road along with the environmental need to reduce emissions gives rise to use of alternative fuels. The electric vehicle is a zero-emission vehicle, and with the latest technologies it can reduce travel cost. The challenges associated with the electric vehicle include the driving range, and the recharging times. This vehicle requires charging the battery instead of re-fuelling the vehicle, and it has to be recharged each 140-160 km. It is useful and cost effective for short drives within the city for going to grocery

store, picking up children from school, or going to work at shorter distances. Its cost-efficiency makes it an attractive choice particularly as a second vehicle in the multi-vehicle household. This research presents the perception of customers of Gujarat for electric vehicles.

Review of Literature

This study aims to explore the purchase behavior of potential customers by analyzing buying cost, maintenance types, and the pattern of usage. With low travel cost these vehicles can be fully utilized for short trips within the city, but longer trips require advanced planning due to the limitation of battery charging. The location of charging stations is therefore crucial to ensure that the destination is reached before the need of recharging. Such factors have been investigated from potential customers for their preferences towards alternatives of fuel vehicles.

Electric vehicles were conceptualized back in last century. One of the most promising characteristic of electric vehicle responsible for its craze among customers is freedom from fuel price fluctuations. As these vehicles operate on battery, instead of going to fuel station for re-fuelling, it only needs to be recharged from an electric power source whenever required. This does not necessarily need going to a specialized station; it can easily be done at home too. On the negative side, its driving range forms a barrier for its acceptance falling far short criterion of 353 miles for adoption. A fully charged electric vehicle currently has capacity to run only upto 100 to 130 km.

The low travel cost and the green impact of electric vehicles are factors leading to explore how people can adopt the electric vehicles as their future vehicle. It can also be taken positively by young people or by people having low income living in metropolitan cities. Many studies in literature explore the electric vehicles acceptance in different regions of the world for example USA, Canada, Norway, South Korea. Ziegler (Ziegler A., 2007) found that younger potential vehicle buyers have higher preference for natural gas vehicles as compared to petrol for the journey to work; they usually purchase environmentally friendly products and own more than one vehicle, which runs on bio fuel. Younger males prefer environmentally friendly products and hence show a higher preference for hydrogen vehicles or electric vehicles. Researchers have also demonstrated the usefulness of an agent-based model in studying the diffusion of alternative fuel vehicles. (Fakhra Jabeen, 2011).

The cost per km of travel using an electric vehicle is less as compared to petrol: for a small economy vehicle it costs only $1.40/100km whereas a petrol vehicle costs $10/100km. From an environmental perspective, the use of conventional motor vehicles in India remains a major source of vehiclebon dioxide and noxious pollutant emissions. Adoption of electric vehicles will result

in substantial reduction in transport pollutant emissions although the use of coal fired power stations to generate electricity will leave GHG emissions little changed (Fabian Kley et al., 2011). Discrete Choice Modelling (DCM) has been put forward by Halbey (2018) to understand and forecast customer preferences based on fields such as health, environmental or transport economics. The research conducted by Lieven et al. (2011) shows the individual priorities against social preferences. The authors used selection process to analyze priorities and barriers to identify individuals considered as potential electric vehicle buyers. Kodjak (2012) highlighted price to be a major barrier to electric vehicle sales. They found that customers show a greater willingness to purchase an electric vehicle when gasoline prices are high.

As far as readiness of Indian Government is concerned for electric vehicles, various state Governments are in the process of making their own plans. According to the article by Balachandran (2017), the southern state of Karnataka has approved a policy to promote R&D in electric mobility. They have made it compulsory to have charging points in all high rise buildings. Maharashtra had waived various taxes for electric vehicles and became India's first state with electric mass mobility system with 200 electric vehicles including taxis, buses, rickshaws in Nagpur city. He has highlighted the other initiatives by Indian Government favoring electric vehicles and the reaction of automobile companies.

It is important to analyze research pertaining to the customer acceptance of electric vehicles in Gujarat. In the research study, questionnaires were given to multiple customers to find their readiness and reasons behind their acceptance or unacceptance of electric vehicles.

Data Analysis and Interpretation

The methodology used here is descriptive in nature as the survey is done to know acceptance levels of respondents in buying and using electric vehicles. People in twentieth century are more environment conscious but it is even more important to know which factors affect their decision of choosing the option of buying electric vehicles. This study tries and evaluates the factors affecting customer's decision in their readiness of buying these vehicles. Using Nargundkar's sample size formula, the sample size sufficient to represent the whole Gujarat came out to be 166. The data collection is primary in nature and the approach followed by the study is quantitative. For registering the opinions of the respondents, a well structured questionnaire was prepared and a survey is conducted over respondents from four different cities of Gujarat i.e. Ahmedabad, Gandhinagar, Vadodara and Bhavnagar. The data collection followed non probability convenience sampling and could register 177 responses. It had questions on the following categories:

- Demographic details: to gain an idea about the sample through age group, gender, occupation and income levels.
- Importance of factors: factors affecting the purchase of cars like environment consciousness, availability of Government subsidies and affordable price range.

The study uses four independent variables i.e. availability of Government subsidies, income level of people, affordable price range and availability of battery charging points and the dependent variable is acceptance of electric vehicles. To understand the readiness towards purchase of electric vehicles, respondents were asked about their current vehicle type and their intention to purchase the type of electric vehicle in future.

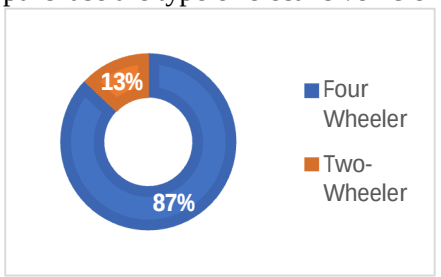

Figure 3a: Future Buying Preference of Electric Vehicles

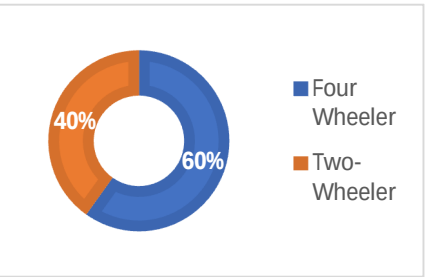

Figure 3b: Fuel Vehicles Currently owned by People

The survey revealed that out of total 177 respondents the ratio of people having four wheeler and two wheeler is 3:2, which is expected to increase with a huge margin reaching upto 7:1 which shows that there is high acceptance among people about electric vehicles and more people are ready to purchase four wheelers in future. To understand this huge acceptance, respondents were asked about the benefits of electric vehicles. Among the various reasons stated, majority of respondents are willing to purchase an electric vehicle as they believe it to be fuel economical. According to them electric vehicles will produce less carbon emission which is required in today's turbulent environmental situation. Other reasons as surveyed are the power performance and ease of the vehicles in driving.

With benefits of driving a vehicle which doesn't uses fuel, respondents have some uncertainties also about purchase of the same. Among various drawbacks stated, majority are concerned about the recharging of the vehicle. According to them, recharging of an electric vehicle will be inconvenient and is going to take lot of time.

Initial cost is another major reason people are concerned about. Other problems stated by respondents are: limited options to choose from, available designs and the power delivery of electric vehicles. Four hypotheses are formed on the basis of the study results. They are:

- **H_{01}:** Acceptance of electric cars is independent of annual income of people.
- **H_{a1}:** Acceptance of electric cars is dependent of annual income of people.

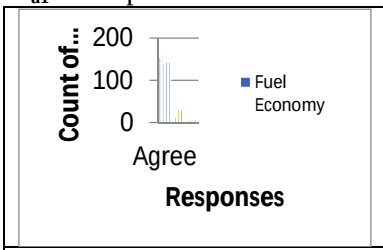

Figure 4: Benefits of Owing Electric Vehicles

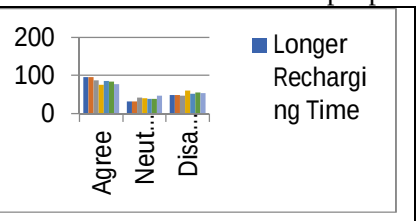

Figure 5: Drawbacks of using Electric Vehicles

Table 1: Showing Chi-Square Test: acceptance of electric vehicles*income levels

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.293[a]	8	.004
Likelihood Ratio	24.556	8	.002
Linear-by-Linear Association	15.160	1	.000
N of Valid Cases	177		

To test the above hypothesis, chi square test is applied on the variables - acceptance of electric vehicles and income levels. The Pearson chi square value in the above table is 0.004 which is smaller than the level of significance, i.e. 0.05. Hence the alternate hypothesis is accepted which means acceptance of electric vehicles is dependent on annual income of people. This means affordability is an important factor, people see before taking the decision of buying a new electric vehicle. The second hypothesis is:

- **H_{02}:** Acceptance of electric vehicles is independent of available price range.
- **H_{a2}:** Acceptance of electric vehicles is dependent of available price range.

Table 2: Showing Chi-Square Test: acceptance of electric vehicles*available price range

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.842[a]	6	.000
Likelihood Ratio	27.125	6	.000
Linear-by-Linear Association	6.455	1	.011
N of Valid Cases	177		

To test the above hypothesis, chi square test is applied and the Pearson chi square value in the above table is smaller than the level of significance, i.e. 0.05. Hence the alternate hypothesis is accepted which means acceptance depends on the price levels of these vehicles. This says that if the initial selling price of electric vehicles is affordable, they are willing to purchase it.
The next hypothesis is:

- **H_{02}:** Acceptance of electric vehicles is independent of no. of charging points available.
- **H_{a2}:** Acceptance of electric vehicles is dependent of no. of charging points available.

Table 3: Showing Chi-Square Test: acceptance of electric vehicles* no. of charging points

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.757[a]	8	.016
Likelihood Ratio	10.197	8	.251
Linear-by-Linear Association	.013	1	.908
N of Valid Cases	177		

Chi square value from above table is 0.016 which is less than the level of significance, i.e. 0.05. Hence, the alternate hypothesis is accepted which means acceptance depends on the availability of charging points for these vehicles. Not every user will have a private garage with electric charging point. So if public infrastructure with multiple charging points is made available, the consumers' purchase intentions might increase. Hence, availability of number of charging points is a major factor affecting their acceptance.

- **H_{04}:** Acceptance of electric vehicles is independent of provision of Government subsidies.
- **H_{a4}:** Acceptance of electric vehicles is dependent of provision of Government subsidies.

Table 4: Chi-Square Test: acceptance of electric vehicles* provision of Government subsidies

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.197[a]	2	.000
Likelihood Ratio	23.946	2	.000
Linear-by-Linear Association	33.488	1	.000
N of Valid Cases	177		

The above output clearly implies that the chi value is 0.000 which is less than the level of significance 0.05 and so null hypothesis is rejected. This means acceptance of electric vehicles is dependent on provision of Government subsidies made available. To understand variance among acceptance levels of respondents of different cities, ANOVA test is applied.

- **H_{05}**: There is no significant difference in acceptance of electric cars over different cities
- **H_{a5}**: There is significant difference in acceptance of electric cars over different cities

Table 5: Showing ANOVA results

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.162	3	.387	1.118	.343
Within Groups	59.967	173	.347		
Total	61.130	176			

Table 5 shows that the significant value is greater than 0.05 and so alternate hypothesis is rejected which says that there is no difference between the acceptance levels of people belonging to different cities.

Results and Findings

The results obtained by analyzing the collected data from people of different income levels of major cities of Gujarat are interesting. The findings are related with some prominent factors affecting the customer acceptance level for purchasing an electric vehicle in near future are as follows:

- The higher income group of customers is showing more inclination to purchase electric vehicles than lower income group of customers.
- Purchasing decision of electric vehicles taken by customers is dependent on prices of vehicles.
- The rising acceptance levels of electric vehicles is expected to increase the purchase of four wheelers by 45%
- More no. of charging points will strengthen the acceptance level of electric vehicles.
- Government subsidies are going to highly affect the acceptance level of electric vehicles.

Some key points have been identified as a result of this study which if given proper attention, will definitely see a rise in purchase and acceptance of electric vehicles in automobile industry. Customers showed interest in electric vehicles if parking lots with public electric charging infrastructure are available with amortized rate. They want the charging locations to be widely available and as easy to locate as fuel stations today. Although the sale of electric vehicles are sensitive to electricity price, but if the customers are offered charging time of these vehicles nearly as quick as that of fuel stations upto a maximum of 30 minutes to fully recharge the vehicle, the customers will be attracted more towards these vehicles. The fact cannot be denied that the frequency of change in battery costs is lesser than price fluctuations of fuels.

Conclusion

Automobile industry has seen progress in recent years specifically in production of electric vehicles in light of increasing global greenhouse gas

levels. In contrast to the benefits of electric vehicles, the biggest obstacle to the widespread acceptance of electric vehicles is multi-facet. On one hand where fuel stations are widely available and easy to locate with very less time to refuel the vehicle, the prospective electric vehicle customers expect sufficient infrastructure for getting their vehicles recharged even in mid of their travel.

Technological advancements in next decade will make the transition from traditional fuel vehicles to modern electric vehicles providing convenient and less costly travel to the customers. It is expected that through the environmental education programs more and more people will be motivated to own an electric vehicle. Every single person can contribute towards making the earth a better place to breath minus pollution. The analysis results reveal that the prospects of electric vehicles are promising subject to the fulfillment of customers' expectations.

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A SOCIO CULTURAL VIEW OF CODE MIXING IN THE ASSAMESE LANGUAGE WITH SPECIAL REFERENCE TO SELECTED ASSAMESE MAGAZINE OF 21st CENTURIES

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Abstract
Socio cultural environment plays a very significant role in code-mixing or various changes occurs in a language. Three are various changes come automatically to a language along with the change happened in that particular society. Along with arise of new thoughts and ideas in a society there will be some automatically arise to express those ideas of the society. The changes occurs in a society due to globalization of 21st century has also made its impact on Assamese language too. Use of large number of Hindi and English words in Assamese language gives a whole new structure and dimension to the language. So, because of the importance of code-mixing in socio-cultural field of a society, this subject has been chosen.

Key Words: Globalization, Code-Mixing, Social Changes, Assamese Language.

Introduction:

Assam located in the North-Eastern extremity of India is a home to diverse people from different language. Languages undergo certain modification with changing time. Therefore a certain language shares verities of characteristics at different period of time. While we look at the Assamese language. It has reached its present state in cooperating new linguistics elements through its journey from its ancient stage with great evolutionary changes. The ethnic tribes of Assam uses Bodo, Mising, Karbi, Tiwa, Deori, Rabha, Tai-Phake, Khamti, Aiton, Turung, etc. from Austric, Aryan-Assamese, Chinese-Tibetan, family of language. Generally code mixing occurs between two language due to social relationship, mutual habitat, exchange of expression, commerce, migration, transportation, etc. Through the communication between two linguistic tribes, code mixing occurs with the exchange of linguistic elements. The linguistic tribes living in Assam uses the own oral language while communicating within their own tribal people. On the other hand, while communicating with other linguistic own tribal people. On the other hand, while communicating with other linguistic tribes, they prefer the Assamese language as the medium. Due to these

reason the Assamese language has been incorporated with various elements from its local Non-Aryan language. In different periods of history, migration has been taken place to Assam by different cultural entities.

During the Mughal invasion to Assam and during the region of the Ahoms. People from Islam religion had come to Assam for different sociocultural and economic reasons. With them, different Arabic and Parsi words found their place in Assamese language where Assamese was replace with English in the schools and the court. English words had started this institution to the Assamese language during their period. At that period different people from various places of diverse India. Associated with tea culture came to India. They had merged themselves in the Assamese nation building process by accepting the Assamese language with due course of time. Various words that reflect their life and culture has also been placed in Assamese. From the last two decades of twenty century, English and Hindi has been mixed with the Assamese language due to the rapid development of science and technology and globalization. Which language can fulfill the participant demand in their multi lingual environment, it is a very significant question.

The speaker and the audience, these two class of people are associated with the use of the language. Therefore, in the selection of language, creation things like the subject, environment, the audience, the speakers, efficiency should have to be considered. With the changing social condition, changing in the language is must. Due to increasing affinity towards the western socio-culture, rapid advancement in information technology and globalization, our society has gradually been overloaded with new items. With the changing life, the language of literature also undergoing certain changes.Literature reflect the real image of the social life. If we look the language of literature, we will notice that the writers also uses the time-friendly language. So in the written format, code mixing in a completely naturally phenomenon. The published magazine of a certain period reflect the format of the language at that very period. The magazine are an important part of the language and literature. They have a certain time limit for publication and it encompasses a board variety of literary works. The magazine selected for our research paper have also includes creative literary works along with data based articles. The articles are the reflection of code- mixing of English, Hindi, or the tribal languages. In the Science, Film or Economics based articles, code -mixing occurs due to the lack of proper Assamese synonyms or due to lack of clarify of the subject matter. On the contrary, for realistic expression or for attractive representation in the story, novel poem or satire, words from different languages are applied. In this research paper based on different published article in the magazine, the code-mixing in the Assamese language has been discussed.

Aim of the Study:

The paper titled "A socio cultural view of code mixing in the Assamese language with special reference to selected Assamese magazine" aims at-

a. To study the socio cultural view of code mixing in the article of Assamese Magazine.

The Socio Cultural Side of Code Mixing:

Language is a significant part of socio cultural life. The social environment is expressed through language. So with the changing social life, language also undergoes certain changes. With changing socio-cultural life line Assam, the Assamese language has also been changed. The social behavior,clothing, household materials have been changing while coming in contact with the western culture. The impact of immense changes reflected in the language also. English and Hindi words have been intruded into Assamese language. Naturally the English words have been used in Assamese language too. To give a realistic view of the social life in the published story and novels, the useful lingual format in applied.

Household Environment:

We use different product from science and technology from the morning to sleeping in night. Even the house we likely, the house hold utensils are also the boon of science. Gate, Lawn, Drawing Room, Kitchen, Bedroom etc. are a part and parcel of the Assamese social life. Modern Assamese people use breakfast in place of "PuwarAhar". So the Assamese language has been changing with the change in the social life. Even in the story and novels, code mixing occurs which depicting household life. For Example-

> "O my god. Kanionubeapaboprine? Idntutkameotinita. Prathamtubrekfastt."(Oh my God! How the eggs can be disliked can be disliked? Minimum three per day: the first in the breakfast).
>
> "cakidarjanedraiffruitskhiniid jaoteebarekrahikoibinxdtabruwarmukhaloisuatuanimesarlagatebanditarus akutparil."(Not only Animesh, but also Bondita noticed when the watchmen slightly looked at BonditaBaruah while delivering the Dryfruits.)

Even the cosmetics used daily are also imported. So the words associated with then has been included in Assamese. Example-

> " thanks god, aamarclubargavarnardutta, o.., o.. etorlgat je barkoighurisilsintamoni. Keleipaharilaneki, khuob je imported perfumebilakloy, o..o.. eteymenejkaridile." (Thanks God" Governor Dutta of our club …yes, yes. Chintamoni who was always there with

him. Why you forget! Who used imported perfumes.yes, yes. He had managed.)

Other cultural events for communication between different placed has also been calculated in the Assamese social life. Therefore, such words has been incorporated.

"kailoiaamar marriage anniversary bulipaharilaneki? Masmangsarandhiseidinaoaamiakolekhaithomne? Bahunatunkoiahise." (Have you forgotten out marriage anniversary tomorrow? Will I have to eat alone everything event in that day? Many have come newly.)

Commercial Environment:

Present day Assamese social life has seen many near changes in the commercial tides. New business is getting established. So to reflect this environment, writers use new words.

Example-

"lehengatoiyarkara EI prxtisthanturnam braids beauty, koinarsoundarya." (The name of the of the 'Lehenga" production company in brides Beauty.)

"jiok swimming classaloiniya, piyanurclassaloiniya, bajarkara, jiokloibookfair, tredfairloijua- eisakalukaamnilaksheeyeakolekare." (Take few to swimming class; Take to Piano Class, Shopping, Atend Book fair, and Trade fair with Jew –these all are done by Nikhilesh.)

Environment Related to Medicine:

The Assamese language lacks in synonyms of certain English words related to medicine and medical science, so many words are used in English format. The mistress also uses the original English words for clarity of the subject. Example-

"isiktsyalyar ,narsinghomt paying guest hoi thakadindiyeakrpasatrugirjiwanarmyadbahaisihatdihadihiaatarijay. " (They left increasing the validity of life of new patient's life after staying a few days with hospital, nursing home and paying guest.)

"isolation warder subidhaprayburhaspataltenai babe ibeSexkoianuradharnisinarugikrakhibarkarane." (Most of the hospitals taken in the facility of isolation words, especially for the patient like Anirudha.)

Educational Environment:

Many English words related to education is used in Assamese. When we look at the School, College, University life, well notice that English is widely used there. Examination in place of 'Pariksha', Question instead of 'Prasna', Answer, Class, Department etc. in the same may are commonly used. The student naturally use these words in their day to day educational life. Example-

> " actuallyproblemtu solve hobo lagisil. Question paperkhanimanei easy je egateikeitaquestionr answer karilu." (Actually the problem should have to be solved. The question paper is so easy it that I've answered all the question.)
>
> " bharatbarxaratikomsayngkhyk college aaruuniversityye excellence, quality, accesaaru equity khetrataagbahijaboparise." (Very few college and universities I India are moving ahead in the Excellence, Quality and Access and Equity.)

Terminological Code Mixing:

It is significant that Assamese language lack on defect words related to science and technology, literature, politics etc. A lot of enough words have been used due to the lack of proper Assamese, Even in the magazines also, it is reflected.

Science Related Words:

- Cornea
- Corneal ulcer
- Pan Opthalmitis
- Eviscerating etc.

Become cornea of the eye is a very sensitive organ. Even a slightest scratch or injection of any material to it leads to corneal ulcer which cause serve pains the patient as well as confuse the doctors. In case of Pan Opthalmitis treatment, Eviscerating in the only option which hurts us severely

Nature Related Words:

- Ecocity.
- Tal'led Butterfly etc.

A person named Lerner has established the Kurtiba town as an Ecocity. It is also note that both the writers translated swallow tailed butterfly as 'chataknejiapakhila' in Assamese. Actually Shallow tal'led Butterfly is called 'teltropy' in Assamese not Chatak.

Conclusion:

A language accepts new words due to the moving time. At present movingtime. At present the Assamese language too received many words from diverse languages gradually. From the paper titled 'A Socio Cultural View of Code Mixing in the Assamese Language with Special Reference to Selected Assamese Magazine of 21st Centuries' it has been founded at magazines, inter words and inter sentence type of code mixing has taken place. Recently among the Assamese language speaking people, there is a growing tendency to use English

and Hindi Words. To cope with time, certain words have been used to display the real portrait of social life. Again due to the lack of proper synonyms of certain words related to information technology, Science Nature etc. the original English words have been used. But in certain causes, the use of English and Hindi words are significant while having their proper Assamese counterpart. In this case, these words may come from various back grounds like relationship, numerical, greeting and gratitude. This type of code mixing has minimized the used of primary Assamese words.

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EFFECT OF FILLERS ON BITUMINOUS PAVING MIXES

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Abstract
One of the costliest and highest types of flexible pavement layer used is bituminous concrete or asphalt concrete. Construction of highways involves huge outlay of investment. To satisfy the design requirements of stability and durability the bituminous mixes should be designed effectively. The ingredients of the mixture include dense grading of coarse aggregates, fine aggregates, fillers and bitumen binder. In this study an attempt was made to find the effect of filler on the behaviour of bituminous mixes. Filler plays an important role in the filling of voids and hence change the physical and chemical properties. An important role is played by the fillers that ~~pass~~ through 0.075mm sieve. Conventionally stone dust is used as filler. An attempt has been made in this investigation to assess the influence of non-conventional and cheap fillers such as brick dust and steel slag in bitumen paving mixes. The properties of bituminous mixes containing these fillers were studied and compared with each other. Various tests were also conducted on aggregates and bitumen and the results were compared with the specifications. The study revealed that use of brick dust and slag as fillers with 2%, 3.5%, 5%, and6.5% was used to improve the physical characteristics of bitumen mixes.

Keywords: Steel Slag, Brick Dust, Marshall Stability Test

i. Introduction

A. General

Highway construction activities have taken a big leap in the developing countries since last decade. As well as the traffic demand is growing at a rapid rate along with the increase in the axle loads, it is necessary to improve the highway paving materials.

The main objective of highway authorities is to provide safe, smooth, imperishable and economical pavements that are capable of carrying the anticipated loads. To achieve this objective, many specialists, engineers and researches are anxious and dedicated to select the paving material that can curtail pavement distress and upgrade the performance of asphalt pavements. Fillers has one of the constituent in an asphalt mixture, especially its binding and interlocking effects.

Basically, highway pavements can be categorized into two groups, flexible and rigid. Flexible pavements are those which are surfaced with bituminous (or asphalt) materials. These can be either in the form of pavement surface treatments (such as bituminous surface treatment (BST) generally found on lower volume roads) or, HMA surface courses (generally used on higher volume roads such as the Interstate highway networks). These types of pavements are called “flexible” since the total pavement

structure "bends" or "deflects" due to traffic loads. A flexible pavement structure is generally composed of several layers of materials which can accommodate this "flexing". On the other hand, rigid pavements are composed of a PCC surface course. Such pavements are substantially "stiffer" than flexible pavements due to the high modulus of elasticity of the PCC material. Flexible pavements being economical are extensively used as far as possible.

In recent years, many countries have experienced an increase in truck tire pressures, axle loads and traffic volumes. Tire pressure and axle load increases mean that the bituminous layer near the pavement surface is exposed to higher stress. High density of traffic in terms of commercial vehicles, overloading of trucks and significant variations in daily and seasonal temperature of pavements have been responsible for development of distress symptoms like ravelling, undulations, rutting, cracking, bleeding, shoving and potholing of bituminous surfaces. Sustainable material combinations and modified bituminous binders have been found to result longer life for wearing courses depending upon the percentage of fillers used.

B. Introduction on Base layer:

Base course is a layer of material of specified thickness constructed on the sub-base of a pavement to serve the functions, such as distributing loads, providing drainage, or minimizing frost action. This is main pavement which receives and resists the load from the vehicles as well as impact. Pavement "base" shall be granular material specified in terms of "traffic category". Base material shall be manufactured from hard, durable stone or recycled building materials free of clay lumps, organic matters and other deleterious substances.

C. Types of Pavements:

Pavements can be divided into 3 major types:

- Flexible pavements (upper layers of asphalt).
- Rigid pavements (upper layers of concrete).
- Composite pavements.

The following types of construction have been used inflexible pavement:

- Conventional layered flexible pavement,
- Full depth asphalt pavement, and

Contained rock asphalt mat (CRAM).

D. Typical layers of flexible pavement:

Fig0.1: Typical layers of flexible pavement

Typical layers of flexible pavement of conventional flexible pavement includes seal coat, surface course, tack coat, binder course , prime coat, base course, sub base course , compacted sub grade and natural sub grade

E. Types of mix: i. Hot mix asphalt concrete, ii. Warm mix asphalt concrete, iii.Cold mix asphalt concrete, iv Cut-back asphalt concrete, and v. Mastic asphalt concrete or sheet asphalt

F. Flexible Pavement Layers:i. Sub grade, ii. Sub base course, iii. Base courseandiv. Surface course

If any one of the above mentioned layers becomes unstable or weak then it will result in failure of flexible pavement. Therefore it is very important to design and construct each layer with outmost care.

II. Literature Review

A. Evolution of mix design concepts

During 1900's, the bituminous paving technique was first used on rural roads – so as to handle rapid removal of fine particles in the form of dust, from Water Bound Macadam, which was caused due to rapid growth of automobiles [Roberts et al. 2002]. At initial stage, heavy oils were used as dust palliative. An eye estimation process, called pat test, was used to estimate the requisite quantity of the heavy oil in the mix. By this process, the mixture was patted like a pancake shape, and pressed against a brown paper. Depending on the extent of stain it made on the paper, the appropriateness of the quantity was adjudged [Roberts et al. 2002]. The first formal mix design method was Hubbard field method, which was originally developed on sand-bitumen mixture. Mixes with large aggregates could not be handled in Hubbard field method. This was one of the limitations of this procedure. FransisHveem, a project engineer of California Department of Highways, developed the Hveemstabilometer (1927). Hveem did not have any prior experience on judging the just right mix from its colour, and therefore decided to measure various mix parameters to find out the optimum quantity of bitumen .Hveem used the surface area calculation concept (which already existed at that time for cement concrete mix design), to estimate the quantity of bitumen required [Hveem 1942]. Moisture susceptibility and sand equivalent tests were added to the Hveem test in 1946 and 1954 respectively [Roberts et al. 2002]. Bruce Marshall developed the Marshall testing machine just before the World War-II. It was adopted in the US Army Corpus of Engineers in 1930's and subsequently modified in 1940's and 50's.

B. Role of mix volumetric parameters

Bitumen holds the aggregates in position, and the load is taken by the aggregate mass through the contact points. If all the voids are filled by bitumen, then the load is rather transmitted by hydrostatic pressure through bitumen, and strength of the mix therefore reduces. That is why stability of the mix starts reducing when bitumen content is increased further beyond certain value During summer season, bitumen melts and occupies the void space between the aggregates and if void is unavailable, bleeding is caused. Thus, some amount of void is necessary to provide by design in a bituminous mix, even after the final stage of compaction. However excess void will make the mix

weak from its elastic modulus and fatigue life considerations. The chances of oxidative hardening of bitumen are more, where, the mix has more voids.Evaluation and selection of aggregate gradation to achieve minimum VMA is the most difficult and time-consuming step in the mix design process .VMA specification has always been a big issue in mix design specifications. The recommendation of minimum VMA is sometimes questioned by the researchers, and is said not to be equitable across different gradations. It is seen that the bitumen film thickness, rather than the VMA, may be related to durability of the mix.

C. Various mix design approaches

There is no unified approach towards bituminous mix design, rather there are a number of approaches, and each has some merits are demerits. Table-1 summarizes [RILEM 17 1998] some of the important bituminous mix design approaches.**Clifford Richardson** was probably the first to describe the importance of filler. He believed that particles smaller than 0.05 mm were the most valuable particles, and suggested that good filler should contain at least **60** percent by weight particles smaller than this size. He also proposed the dual function of filler as:**(a.)**Rendering the mixes higher density, and **(b.)**stiffen the asphalt cement. His view was shared by Spaulding and others.Satisfactory fillers recommended by Richardson included Portland cement, ground limestone, ground shale and ground clay.

Tillson (1990):

In his book, "Street Pavements and Paving Materials" in brought up the object of the powdered mineral matter as to fill the voids in the sand so as to make the total voids as small as possible and thus the exact quantity to be used in an bitumen wearing surface mixture should be determined by the gradation of the sand.

Richardson (1913) :

Extended the function of filler to include making the bitumen cement less susceptible to changes in consistency caused by heat. Filler was defined as a part of the mineral filler with at least 75 percent passing # 200 sieve and at least 66 percent remaining suspended in water for 15 seconds. Acceptable fillers were extended to include ground trap rock, marl and volcanic ash.

Richardson(1915)

He is presented "The Theory of the Perfect Sheet Bitumen Surface", in which he stressed the importance of fine particle size and surface area of the filler saying, We now understand the fact that an extended surface area in addition to providing for the use of a. larger amount of bitumen exercises a still more important function, due to the greater surface energy developed by the larger surface area of a fine mixture over that of a coarse one and that, aside from the greater surface presented by a fine sand as compared to a - coarse one,

The presence of highly dispersed colloids with their extensive surface is necessary for the production of the most satisfactory surface.

This concept was shared later by many others with regard to the function of the filler.

Spielmann And Hughes agreed with Richardson's conception that the filler forms a colloidal suspension in bitumen and together fills the voids in the aggregate. In addition, they specified that the immediate effect of the admixture of filler to bitumen was to increase its adhesive powers, and raise its softening point and its general stability.

Warden et al. (1952): Fly ash was a suitable filler material in terms of mixing, placing and composition, stability, resistance to water damage, and flexibility.

III. Experimental Study

A. Materials Used :

- Aggregates
  - Coarse aggregates
  - Fine aggregates
- Bitumen
- Fillers
  - Steel slag
  - Brick dust

1. Aggregates:

Stone aggregates are the major portion of the pavement structure and they from the prime materials used in the construction of the different pavement layers. Aggregates used in the different pavement layers have to bear different magnitudes of stresses due to the wheel loads. The aggregates of the pavement surface course have to resist the wear due to the abrasion action of traffic and deterioration due to weathering and highest magnitude of wheel load stresses.

The stone aggregates are used in the construction of various pavement layers such as bituminous pavement layer of flexible pavements and cement concrete mixes used for cement concrete pavement and also other drainage works most of the road aggregates are prepared by crushing the natural rock. Gravel aggregates are small rounded stones of different sizes which are generally obtained as such from some river beds. The aggregates are specified based on their grain size, shape, texture and its gradation. The crushed aggregates of different size are separated by sieving through square sieves of successively decreasing sizes.

The aggregates are classified in to two types:

- Coarse aggregates
- Fine aggregates

- Coarse aggregate: Aggregates passing through 13mm sieve and retained from 2.36mm sieve is used in this entire project.
- Fine aggregate: Aggregates passing through 2.36mm sieve and retained from 0.075 mm sieve is used in this entire project.

Fig0.1: Aggregates

2. Desirable properties of aggregates:
   - Resistance to impact or toughness.
   - Resistance to abrasion or hardness.
   - Resistance to crushing strength.
   - Good shape factors to avoid too flaky and elongated particle of coarse aggregate.
3. Bitumen:

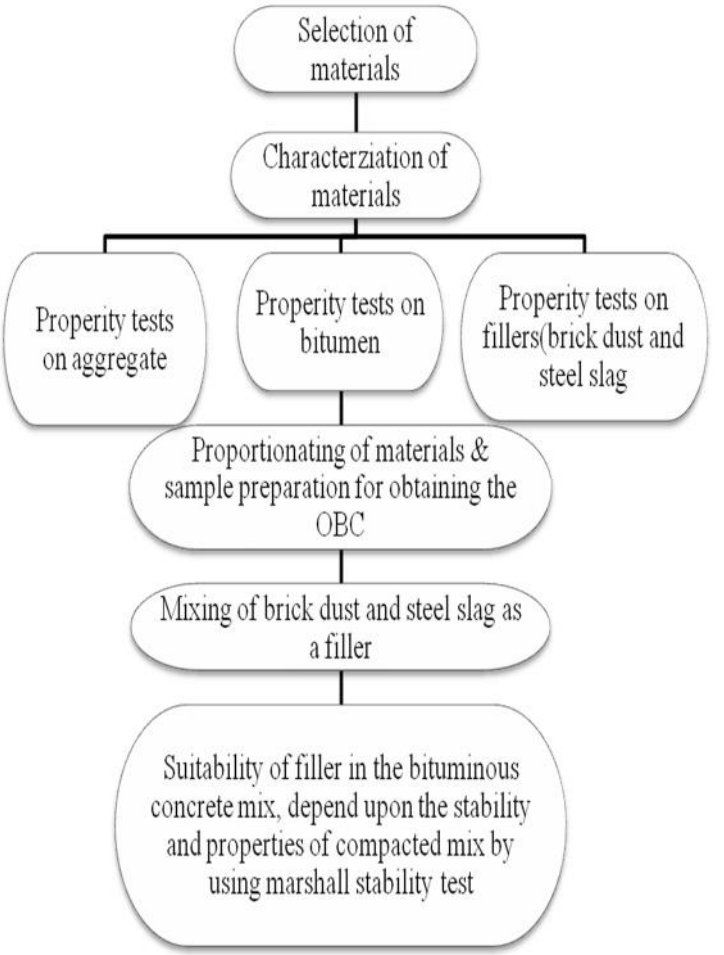
Bituminous binders used in pavement construction works are bitumen and tar. Bitumen is a petroleum product obtained by the distillation of petroleum crude. Coal tar is produced from coal as a by product of coke; both bitumen and tar have similar appearance as both are black in colour. Though both these binders were used for pavement works, they have widely different characteristics. Tar is no longer used for paving applications because of its undesirable characteristics including high temperature susceptibility ad harmful effects of its fumes during heating.

Bitumen is hydrocarbon material of either natural or pyrogeneous origin found in gaseous, liquid, semisolid form and is completely soluble in carbon disulphide and in carbon tetra chloride, bitumen is a complex organic material and occurs either naturally or maybe obtained artificially during the distillation of petroleum. Bituminous materials are very commonly used in highway construction because of their binding and water proofing properties. For the construction of bituminous pavement, the paving grade bitumen is heated to temperatures in the range 0f 130 to 175c or even higher, depending upon the type and grade of bitumen selected and the type of the construction work. Mixing of the bitumen with the aggregates is done in a hot mix plant to obtain “hot bituminous mix”.

Fig0.2Bitumen binder

B. Detailed Methodology :

The following methodology is under taken and various tests were conducted for both steel slag and brick dust.



Tests on Aggregate:

Tests which are generally carried out for judging the desirable properties and stability of stone aggregate are listed below:

- Sieve Analysis
- Aggregate impact test
- Los angles abrasion test
- Aggregate crushing test
- Flakiness and elongation index
- Specific gravity and water absorption test

C. Elongation index:

The sample of aggregate to be tested is sieved through a set of sieves and separated into specified size ranges. The longest side of aggregate particles from each of the size range is then individually passed through the appropriate gauge of the length gauge; the gauge length would be 1.8 times the mean size of the aggregate. The portion of the elongated aggregate having length greater than the specified gauge from each size range is weighed. The total weight of the elongated stones is expressed as a percentage of the total weight of the sample taken to obtain the elongation index.

Test results of aggregates:

Table 0.1: Test results of aggregate:

S.NO	DESCRIPTION OF TEST	TEST METHOD	TESTRESULT	MORTH SPECIFICATION LIMIT
1	ABRASION VALUE	IS:2386 PART4	24.4%	MAX40%
2	IMPACTVALUE	IS:2386 PART4	13.21%	MAX24%
3	CRUSHING VALUE	IS:2386 PART3	16.31%	MAX30%
4	SPECIFIC GRAVITY OF COARSE AGGREGATE	IS:2386 PART4	2.65	2.5-3.5
5	SPECIFIC GRAVITY OF FINE AGGREGATE	IS:2386 PART4	2.50	2.5-3.0
6	WATER ABSORPTION	IS:2386 PART3	0.6%	MAX2%
7	FLAKINESS INDEX	IS: 2386 PART1	19.5%	Max30%
8	ELONGATION INDEX	IS: 2386 PART1	13.2%	Max15%

1. Tests on Bitumen:
   - Penetration test
   - Flash and fire point
   - Ductility test
   - Flash and fire point
   - Specific gravity
2. Grading of bitumen:

In India until recently bitumen binder for use in pavement construction was classified in to various penetration grade such as 80/100, 60/70, 30/40 etc. based on the penetration of test values determined at 25^0 c, now more rational method of grading paving bitumen known as “viscosity grading” has been adopted by the bureau of Indian standards for grading of bitumen in India, based on absolute viscosity values determined at 135^0C. Generally pavement service temperature is considered to be around 6^0C and the laying temperature of hot bituminous mixes to be about 135^0C.

Table 0.2 : Viscosity grading of bitumen and consistency properties (as per section 500):

S.NO	VISCOCITY GRADE	RANGE OF PENETRATION VALUE AT 25^0C
1	VG 10	80-100
2	VG 20	60-80
3	VG 30	50-70
4	VG 40	40-60

Table 0.3 : Results of bitumen:

S.NO	DESCRIPTION OF TEST	TESTRESULT	SPECIFIED LIMIT	TESTMETHOD
1	Penetration value	65	65-70	IS:1203
2	Ductility	78	Not less than 75	IS:1208
3	Specific gravity	1.03	0.99 min	IS:1202
4	Flash point	240	Min 220	IS:1209
5	Fire point	255	Min 220	IS:1209
6	Softening point	48.65	40^0c-55^0c	IS:1205
7	Viscosity	500	Min 300CST	IS:1206

D. Tests on Fillers:

1. Specific gravity and water absorption:

Rinse the inside of neck of pycnometer with water and add sufficient water to bring the water level in the pycnometer to its calibrated capacity. Adjust its temperature to 73.4 + 3.1 F, if necessary by immersion in circulating water. With a rolled up paper towel, dry the inside neck of pycnometer just above calibration level. Determine and record this mass of the pycnometer, sample, and water to the nearest 0.1 gram.

Remove the fine aggregate from the pycnometer and dry to constant mass at a temperature of 230 + F. (Constant mass shall be determined as follows: Dry the sample for a minimum of 1 weighing unit the weight does not change more than 0.1 gm at drying intervals of a minimum

of 30 minutes.) Cool in a room at a temperature for 1.0 + 0.5 hours. Determine and record the mass to the nearest 0.1 gm.

Table 0.4 : Test results of fillers:

S.NO	FILLER	SPECIFIC GRAVITY	WATER ABSORPTION
1	Stone dust	2.6	1.43
2	Brick dust	2.15	1.23
3	Steel slag	2.7	1.52

IV.Marshall Mix Design For Bituminous Concrete

A. General:

The bituminous mixes laid in the lower layers of flexible pavements such as the base course are subjected to lower levels of stresses due to the traffic loads then those laid in the surfacing course. Further the lower pavements layers are subjected to lesser variations in temperature and moisture due to climatic factors and no wear and tear due to traffic

movements .Therefore the bituminous mixes used in these layers may be designed considering lower requirements of stability and durability.

On important highways carrying heavy traffic loads, the flexible pavements are provided with thick bituminous layers using dense graded bituminous mixes : in such cases a dense bituminous macadam(DBM) "binder course" and bituminous concrete (BC) surface coarse may be laid over a well prepared base course and drainage layer , the stability and other requirements of both the DBM and BC layers may be almost the same. For Further details, refer chapter, "highway construction".

B. Constituents of Bitumen Mix and Their characteristics:

The constituents of a dense graded bituminous mix to be used as a surface course o a flexible pavement are:

- Coarse aggregates
- Fine aggregates
- Filler
- Bituminous binder

The gradation of the selected coarse aggregates should be such that the combined aggregates can fulfil the specified or desired gradation of the mixed aggregates. Selection of maximum size of coarse aggregate in the mix should be based on the compacted thickness the layer in which mix to be laid. Fine aggregates may be either manufactured or nature sand or mix of both .The filler material consists of finely powered mineral material (85 to 100 percent passing 0.075mm sieve) such as hydrated lime, Portland cement or rock dust or mix of these, based on requirements. Appropriate type and grade of bituminous binder is selected depending on the climatic conditions, with particular reference to the actual temperature range at the site.

Fig0.3:Fine aggregate sieve & Coarse aggregate sieves

Aggregate mix used; the type, grade and percentage of bituminous binder in the mix also contributes towards the stability of the mix. The flexibility of the compacted bituminous mix depends mainly on the binder content and the filler-binder system in the mix.

C. Desirable properties of bituminous mix for pavement surface course:

The important requirements of the well designed bituminous mixes fort use in flexible pavements layers are given below:

(a) Adequate stability of the mix to withstand fatigue effects and deformation due to the repeated application of wheel loads; this may be achieved by selecting suitable type and gradation of aggregates, appropriate binder and its proportion.

(b) Adequate flexibility of the mix to withstand fatigue effects and developments of cracks during service life of the pavements; to be achieved by selection of proper mix if aggregate and binder.

(c) Adequate resistance to permanent deformation such as rutting due to the movement of heavy wheel loads during hot weather; this may be achieved by selection of good quality of aggregate, ensuring its appropriate gradation and densification of the mix during compaction.

(d) Posses adequate resistance to lower temperature cracking under traffic movements; this may be achieved by selection of suitable type and grade of bituminous binder.

D. Requirements of design mix:

The bituminous mix is designed in the laboratory considering the following requirements:

(a) The stability of the mix corresponding to the design binder content to be more than minimum specified value.

(b) Flexibility or deformation at failure to be within the specified range.

(c) Durability of the mix under stagnant water to be assessed by water sensitivity t

Table 0.1 : Requirements of bituminous concrete

(AS PER MORTH: CLAUSE 507.3.1):

Minimum stability(KN at 60c)	9.0
Flow(mm)	2-4
Percent of air voids	3-6
Volume of mineral aggregate(%)	12-15
Voids filled with bitumen (%)	65-75

E. Bitumen concrete mix design:

Marshall Method of mix design has been adopted in this project. Accordingly aggregates /with the grading 2 of **MORTH** and bitumen 60/70 having properties as described in the preceding Paragraphs have been used.

The objective of bituminous paving mix design is to develop an economical blend of aggregates and Bitumen. In the developing of this blend the designer needs to consider both the first cost and the life cycle cost of the project. Considering only the first cost may result in a higher life cycle cost.

F. The following steps may be followed for design of a bituminous mix:

1. Selection of aggregate:

Aggregates which posses sufficient strength ,hardness ,toughness soundness and polishes stone Value as chosen ,keeping in view the availability .crushed aggregate and sands produce higher stability of the mix when compared with gravel and rounded sands.

Fig0.4: Selection of aggregate

2. Selection of aggregate grading:

The properties of a bituminous mix including the density and stability are very much dependent on the aggregates and their grain size distribution .most of the engineering organization have specified the use of dense grade mixes and not open graded mixes . as higher maximum size of aggregates gives higher stability usually larger size that can be adopted depends on the compacted thickness of pavement layer provide all over other factors are fulfilled .maximum aggregate size of 25 to 50 mm are used in bituminous mixes for base course and 12.5 to 18.7 mm size are used for surfaces course .generally the maximum size of aggregate varies from one third to two third of layers thickness. The gradation of final mix after blending of aggregates and filler should be within the specified range as per the specifications of either the Indian roads congress (IRC) or the ministry of road transportation and highways (MORTH), government of India**.**

Table 0.2: Aggregate grading (AS PER SECTION 500, TABLE 500-9):

Grading	2
Nominal aggregate size	13.2mm
Layer thickness	30-40mm
I.S sieve	Cumulative percent by weight of total aggregate passing
19	100
13.2	90-100
9.5	70-88
4.75	53-71
2.36	42-58
1.18	34-48
0.6	26-38
0.3	18-28
0.15	12-20
0.075	4-10
Bitumen content by mass of total mix	5.0-7.0

Bitumen Grade (penetration)	
Percentage of filler in total mix	2.0-8.0

3. Proportioning of aggregate:

The layer and the availability of aggregates then the available aggregates are proportioned by one of the method such as:

1. Trial and error Method
2. Graphical method
3. Analytical Method

Generally it is attempted to obtain midpoint of the difference ranges are specified for the respective sizes vide MORTH specification.Two of the graphical methods of proportioning, viz: triangular chart method has been explained in chapter 9 soil stabilized roads the triangular chart method is suitable for proportioning three different aggregates. However rotchfutch graphical method of proportioning is found to be suitable when any number of coarse and fine aggregates to be mixed to obtain the desired gradation for design of bituminous mixes.

Tabl0.3: Calculation of quantity of aggregates for nominal mix:

Sieve size	% Passing		% Retained adopted	Material	Amount of aggregate taken in the binder content in grams				
	Range	Mid-range			1200	1200	1200	1200	1200
19	100	100	0	Coarse aggregate	0	0	0	0	0
13.2	90-100	89.5	10.5		120	119	119	118	117
9.5	70-88	79	10.5		120	119	119	118	117
4.75	53-71	62	17		194	193	193	192	191
2.36	42-58	50	12		137	136	136	135	133
1.18	34-48	41	9	Fine aggregate	103	102	101	100	100
600	26-38	32	9		102	101	100	100	100
300	18-28	23	9		102	102	100	100	100
150	12-20	16	7		80	80	80	79	78
75	4-10	7	9		102	102	100	100	100
Pan			7	**Filler**	80	80	80	80	80
Bitumen	5-7				5%	5.5%	6%	6.5%	7%
Bitumen in grams					60	66	72	78	84
Total Ingredients					1126 0	1266	1272	1278	1284

V.Results And Discussions

Table 0.1Marshall Properties (Nominal mix)

% Bitumen	Density	Air Voids	VMA	VFB	Stability	Flow
5	2.461	8.17	16.95	51.79	10.03	2.2
5.5	2.499	5.95	16.11	63.06	12.01	2.9
6	2.525	4.17	15.68	73.41	13.49	3.4
6.5	2.536	2.95	15.77	84.29	12.96	3.7
7	2.53	2.35	16.42	85.68	11.38	3.8

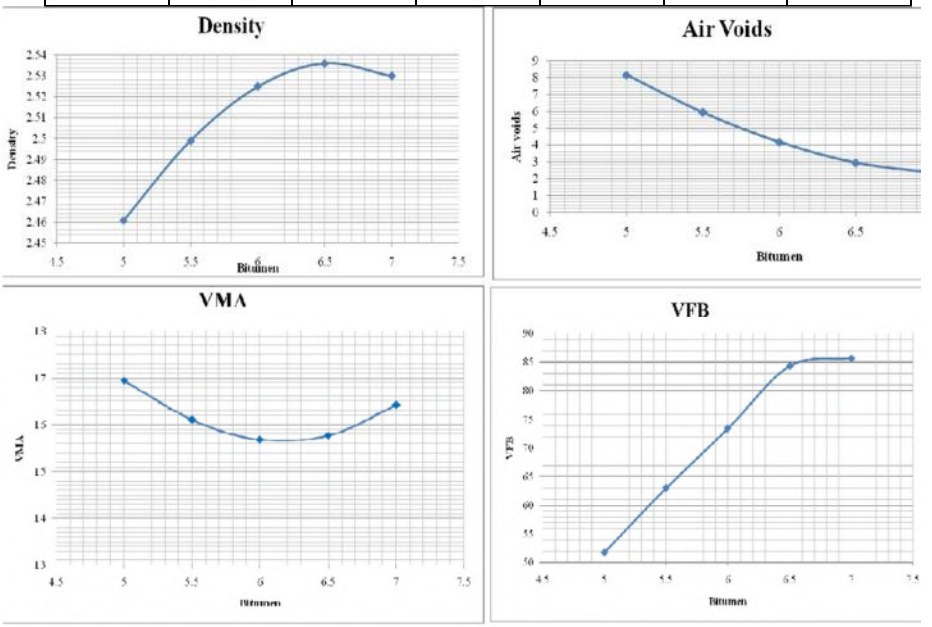


Fig0.1 Nominal mix [(bitumen vs Density),(bitumen vs Air voids), (bitumen vs VMA)&(bitumen vs VFB)

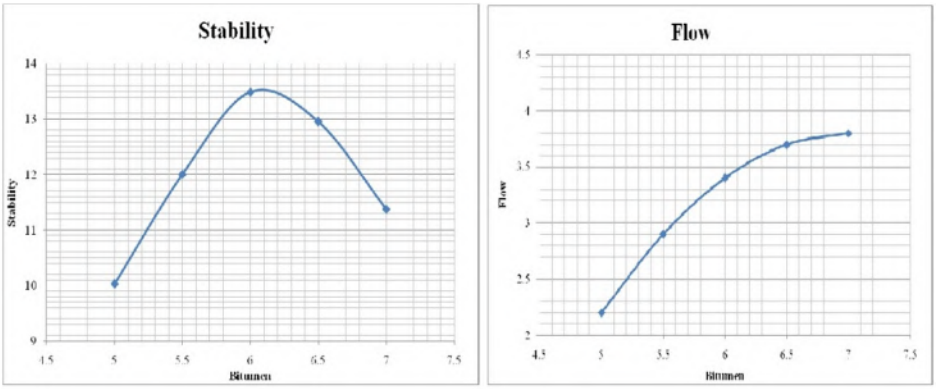


Fig 5.2 Nominal mix [(bitumen vs Stability)&(bitumen vs Flow)]

Table 0.2Marshall Properties (Specimen With Steel Slag)

% Bitumen	Density	Air Voids	VMA	VFB	Stability	Flow
5	2.47	7.84	16.35	52.04	11.55	2.3
5.5	2.507	5.65	15.54	63.64	13.07	2.9
6	2.524	4.21	14.9	72.69	14.97	3.1
6.5	2.52	3.56	16	77.75	12.65	3.2
7	2.506	3.28	16.91	80.61	11.27	3.3

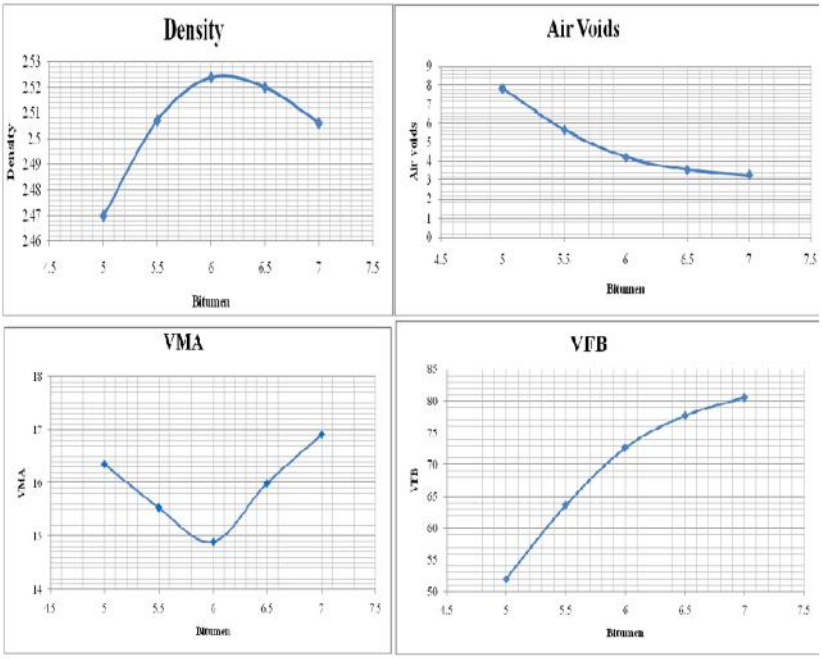


Fig0.3 Specimen With Steel Slag(bitumen vs Density), (bitumen vsAirvoids), (bitumen vs VMA)&(bitumen vs VFB)

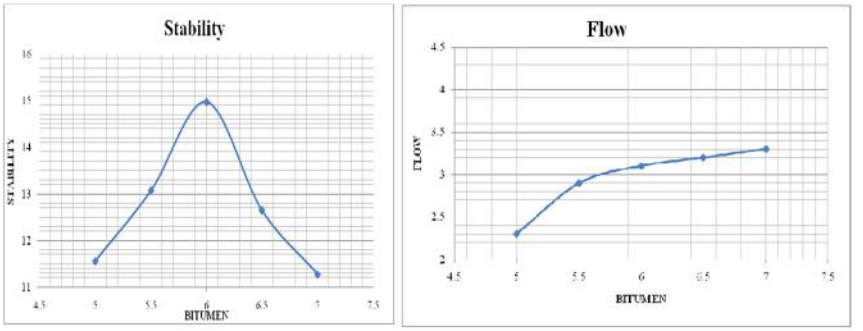


Fig0.4Specimen With Steel Slag(bitumen vs Stability)&(bitumen vs Flow)

Table 0.3Marshall Properties (Specimen With Brick dust)

% Bitumen	Density	Air Voids	VMA	VFB	Stability	Flow
5	2.459	7.9	16.12	50.99	10.54	2.5
5.5	2.491	5.89	15.48	61.94	12.02	3.1
6	2.52	4	14.94	73.24	12.8	3.3
6.5	2.502	3.88	16	75.75	12.1	3.6
7	2.485	3.76	17.02	77.91	11.07	3.8

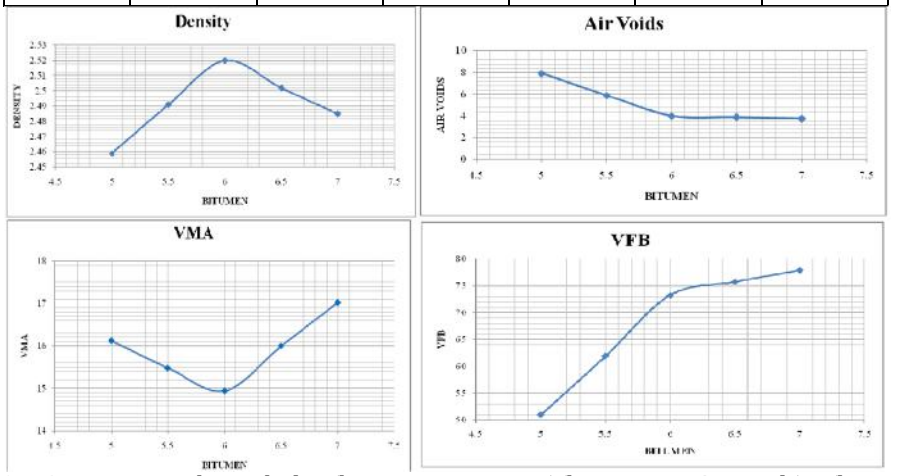


Fig0.5 Specimen With Brick dust(bitumen vs Density)(bitumen vs Air voids) , (bitumen vs Air voids)& (bitumen vs Air voids)

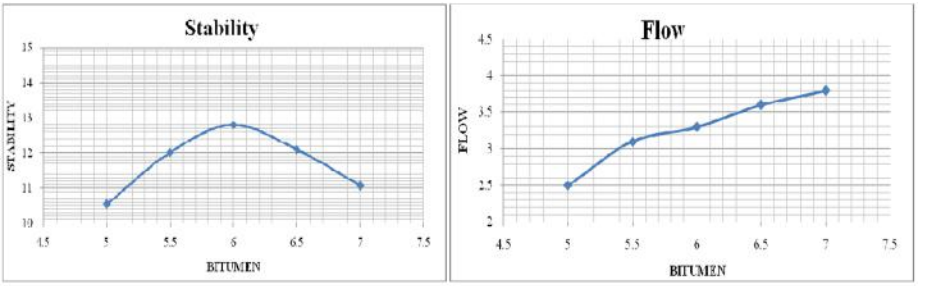
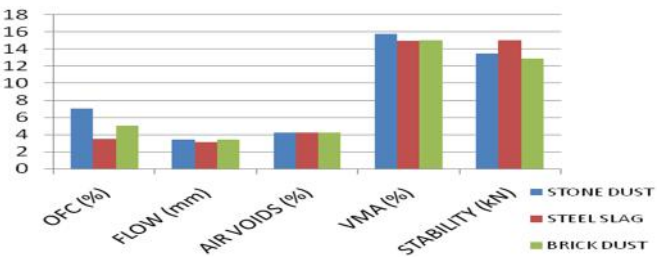


Fig0.6 Specimen With Brick dust (bitumen vs Stability) and (bitumen vs Stability)

Comparison of Marshall Properties of various fillers:
Table 0.4 Marshall PROPERTIES

S.NO	PARAMETERS	STONE DUST	STEEL SLAG	BRICK DUST
1	Optimum bitumen content(%)	6	6	6
2	Optimum filler content(%)	7	3.5	5
3	Stability(kn)	13.4	14.95	12.86
4	Flow(mm)	3.4	3.10	3.40
5	% of air voids	4.17	4.20	4.00
6	VMA(%)	15.68	14.90	15.00
7	VFB(%)	73.41	72.50	73.00



VI. Conclusions And Future Scope

Conclusions:

- Bituminous mixes containing stone dust as fillers are found an optimum bituminous mix at 6% of the bitumen content.
- Bituminous mixes containing steel slag as filler displayed maximum stability at 3.5% of c of filler content having an increasing trend up to 3.5% and then gradually decreasing, the unit weight/ bulk density also displayed a similar trend with flow value being satisfactory at 3.5% of filler content at optimum bitumen content (6%).
- Bituminous mixes containing brick dust as filler showed maximum stability at 5% of filler content displaying an ascending trend up till 5% of filler content and then decreasing, the flow value showed an increasing trend and similar was the trend shown by unit weight/bulk density, the percentage of air voids obtained were seen to

be decreasing with increase in filler content thus from here we can see that at 5% of filler content we are obtaining satisfactory results at optimum bitumen content(6%).

- These mixes were seen to display higher air voids than required for normal mixes.
- Higher bitumen content is required in order to satisfy the design criteria and to get usual trends.
- From the above discussion it is evident that with further tests steel slag and brick dust generated as waste materials can be utilized effectively in the making of bitumen concrete mixes for paving purposes.
- Further modification in design mixes can result in utilization of steel slag and brick dust as fillers in bituminous pavement thus partially solving the disposal of industrial and construction wastes respectively.
- Though stone dust being conventional filler however steel slag and brick dust can be utilized in their place effectively thus solving the waste material disposal substantially resulting in utilization of industrial space being consumed in disposal of industrial wastes.
- The cost effectiveness of these non-conventional filler specimens can be realized after performing a cost analysis of these non-conventional materials against the conventional specimen resulting in reduction of the construction costs considerably.
- It is evident that with further tests steel slag and brick dust generated as waste materials can be utilized effectively in the making of bitumen concrete mixes for pavements.

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INDIRA KRANTHI PATHAM A POVERTY ERADICATION PROGRAMME IN YADADRI BHONGIR DISTRICT OF TELANGANA: A STUDY

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Abstract
Indira Kranthi Patham (IKP) is a state-wide poverty reduction project to help the rural poor to improve their livelihoods. The state governments have been striving to implement rural development projects with the help of world bank in professional and in an accelerated manner. Government of Telangana have undertaken comprehensive eradication of poverty, in rural and urban areas, through the Indira Kranthi Patham programme to empowerment rural women, through formation, development and strengthening of women Self-Help Groups and their federations. The Government regards social security as one of the important factors in improving quality of life and elimination of poverty. The present study is deals with implementation of Indira kranthi patham a poverty reduction programme in Telangana state of Yadadri Bhongir district.

Keywords: Indira Kranthi Patham, Poverty Reduction, Livelihoods, Empowerment

Introduction
Indira Kranthi Patham (IKP) is a state-wide poverty reduction project to help the rural poor to improve their livelihoods. The state governments have been striving to implement rural development projects in professional and in an accelerated manner. Government of Telangana have undertaken comprehensive eradication of poverty, in rural and urban areas, through the Indira Kranthi Patham programme of empowerment of women, through formation, development and strengthening of women Self-Help Groups and their federations. As a result of these measures, a large number of women and their families in rural and urban areas are enjoying stable livelihoods, increased incomes and better quality of life. While economic growth at household level is an important pre-condition for expanding the scope of Social Security, no less important is the need for adopting special social security policies. The Government regards social security as one of the important factors in improving quality of life and elimination of poverty. The need for income security in their old age, when their ability to earn

from their physical labour would have reduced considerably, has-been voiced by Self-Help Group members in various meetings.

Objective of Indira Kranthi Padham

The objective of Indira Kranthi Padham is to enable the rural poor, particularly the poorest of the poor in Telangana to improve their livelihoods and quality of life by facilitating formation of self-sustainable institutions of the poor. IKP builds on more than a decade long, state wide rural women's self-help movement. The focus is on deepening the process, providing an institutional structure and developing a framework for sustaining it for comprehensive poverty eradication. It is the single largest poverty reduction project in South Asia. The project mandate is to build strong institutions of the poor and enhance their livelihood opportunities so that the vulnerabilities of the poor are reduced. Community Investment Fund (CIF) is the major component of the project, which is provided to the SHGs/ VOs/ MSs to support wide range of activities for socioeconomic empowerment of the Poor.

The project would help create self-managed grassroots level institutions of the poor, namely Women thrift and credit S.H. Gs, their federations - Village Organizations (VOs) and Mandal Samakhyas (MSs).

- Support investments in sub-projects proposed by SHGs, VOs, and MSs.
- Improve access to education for girls to reduce the incidence of child labor among the poor.
- Support to disabled persons through social mobilization and access to livelihood opportunities.
- Build capacities of established local institutions, especially the Gram Sabha/Gram Panchayat and line departments, to operate in a more inclusive manner in addressing the needs of the poor.
- Achieve convergence of all anti-poverty programs, policies, projects and initiatives at state, district, mandal and village levels.

Significance of the Study

What makes this project different from poverty initiates, is its emphasis on the poorest of the poor who are by and large the dalits, tribal's and other disadvantaged groups like disabled, women headed households, etc. the project is run on the participatory principals, is demand driven and believes in a bottom up approach. Women groups formed by the project functionaries are federated at the village and Mandal level to help them access bank loans and link up with the various government departments.To facilitate this process in the districts, there is Community Coordinators (CC), trained professionals, who live the village and interact with one thousand poor families each. The other cadre is the activists, like the bare foot professionals or social activists, who are drawn from and

maintained by the community. It is building people's skills and leaving behind organizations of the poor that makes the Indira Kranthi Patham" model a sustainable one.

Study Area

Mothkur and Atmakur were selected in Yadadri Bhuvanagiri district of Telangana.

a. Geography

Mothkur is located at 17.4500°N 79.2667°E. It has an average elevation of 292 metres (961 ft).

b. Demographics

The population of Mothkur Mandal as per 2001 census is 55638 and 2011 census are 55699 with a very less growth % of 0.11.

c. Politics

Mothkur and Atmakur situated in the assembly constituency of Tungathurty, and a revenue division of Bhuvanagiri. These are the mandal headquarters and Mothkur a former taluk. It is a regional trade centre for the three mandals of Mothkur, Atmakur and Gundala. It is located on the banks of Bikkeru a tributary of Musi River which itself is a tributary of river Krishna. Roads are the only mode of transport to this town. There are many shops and grocery stores that cater the needs of the people who live in villages surrounding Mothkur.

The town consists of Old Mothkur and New Mothkur. New Mothkur is also called as Pothaigadda. Old Mothkur is also called as the old bus stand area. New Mothkur is well planned and has many residential colonies.The town has a lake on which there is a road towards Tirumalagiri. Most of the government offices are situated after the crossing with the lake.

Project Implementing Agency

1.District Rural Development Agency

Project Director

a. Over all supervision and implementation of the all programmes, projects and schemes.
b. Releasing of funds, grants and subsidies for various schemes with approval of the Dist. Collector.

Assistant Project Officer (APO)

a. Implementation of Rural Development programmes in the different areas allocated within the district
b. Submission of monthly periodical reports to indicate progress.

Assistant Project Officer (APO. Accts)

a. Maintenance of Accounts in all programmes.

b. Preparation of Audit Reports
c. Preparation of Utilization Certificates.

The Dist Project Management Unit (DPMU) is under the control of Society for Elimination of Rural Poverty (SERP). Poverty is one of the longest standing problems facing governments and population throughout the World. Poverty continues to be a reality. SERP has defined a set of objectives that can be implemented in the practical sense, understandable by key stakeholders irrespective of their literacy levels and achievable through a Community Demand Driven (CDD) approach. Further it also evolved a structure of implementation that ensure that the maximum participation is from the grass root level, so that the programme is a bottom-up change with a plan and action from the bottom and facilitate from the top.

Community Investment Fund (CIF)

The Community Investment Fund is one of the most key components of IKP Project. CIF funds come from the SGSY scheme. The CIF provides resources to the poor communities for use as means to improve their livelihoods. This component supports the communities in prioritizing livelihoods needs by investments in sub-projects proposed and implemented by the community (SHGs / V.Os / Mandal Samakhyas (MS) and other Common interest groups). There have three types of sub-projects namely (a) Income Generation, (b) Productive physical infrastructure and (c) Social development. The bulk of the C.I.F budget is for income generation. Out of the total IKP project budget, CIF is the most important component that determines the level of employment generation for the poor. CIF acts as a catalyst in capital formation at all levels including SHG, VO and MS and offers great leverage for raising bank funds. Under micro plan based intervention strategy, CIF is a loan from MS to VO and from VO to SHG for implementing micro plans of SHGs, collective marketing and food security initiatives. However, it is a grant to VO in case of implementing social development and infrastructure development activities District Project Management Unit (DPMU) releases the CIF to Mandal Samakhyas in installments up to their mandal entitlement.

Organization

It is implemented by Society for Elimination of Rural Poverty (SERP), Dept of Rural Development, Government of Telangana. SERP is an autonomous society registered under the Societies Act, and implements the project through District Rural Development Agencies (DRDAs) at the District level. SHG VO MS ZS 10-15 BPL Federation of Federation of Federation of Families BPL SHGs VOs MSs.

Key features of the micro planning process:

- Mandal Samakhya (MS) as the Sub-project Implementing agency (SPIA) support Village Organizations (VOs) for implementing their micro plans and assume the responsibility of appraisal, sanction and disbursement, follow up, monitoring, recycling of recovered CIF, procurement etc.
- MS itself implement certain activities on its own which have influence on more than one village (for example food security and marketing interventions taken up, social development activities and Physical infrastructure created for the benefit of more than one village).
- Zilla Samakhya (ZS) is the SPIA for activities, which have influence on more than one mandal, for example, insurance.

The grassroots level organization is the SHGs. Two members from each SHG have part of the village organization. About 200 SHGs comprise the village organization. The village organization is at the level of the panchayat. The village organizations have coordinated by Mandal Mahila Samakhyas. The Mandal Mahila Samakhya is the basic financial agency. Federation of Mandal Mahila Samakhya is the Zilla Samakhya. Some funding goes through the Zilla Samakhya but most go through Mandal Samakhya.

The Mandal Mahila Samakhya and Zilla Mahila Samakhya have funded by DRDA for institution building. Assistant project manager is a facilitator for two Mandal Mahila Samakhyas. The Assistant project manager also attends VOs meetings occasionally. At the Zilla Mahila Samakhya, there is a Zilla Manager. A Community Coordinator is appointed for about 10-12 village organizations. DRDA has area coordinators or assistant project officers (APO) at the block level. Usually about 5 Mandals have covered by the APO. The APO attends all the 5 or 6 MMS meetings. They help in facilitating these meetings. They explain the policies and rules and also schemes. The area coordinator who is an APO reports to the project director. The area coordinator has an office cum residence at one of these locations. The role of Mandal Development Officer is very limited. The community facilitator is the one who certifies in most situations.

Services of Village Organization:

- To encourage the SHGs to take up the social issues
- To provide financial support to members through SHG by extending loan
- To provide required technical training for livelihood activities
- To identify and train personnel for SHGs & VOs for book keeping
- Continuous monitoring through Committees

Services of Mandal Mahila Samakhya:

Provide CIF to VOs to implement the Micro plans of member SHGs Capacity building activities that include organizing trainings to SHGs, VOs and staff of CBOs

- Continuous monitoring of VOs through Committees
- Collaboration with Line Departments & Others

The Mandal Samakhya is responsible to develop required social capital (SHG book keepers & Community activists identified from Community) to run the community based organizations with the help of MS staff i.e.

Mandal Samakhya

a. Asst. Project Manager (one for two mandals)
b. Community Coordinator (three pre Mandal)
c. Mandal Training Coordinator
d. Master Book Keeper / community volunteers (three per mandal)
e. Accountant
f. Community facilitators

Self Help Group

One of the members is appointed as the Book Keeper

Field functionaries (Community Coordinators) have selected using written test, group discussion, village placement, and interview and posted in the Indira Kranthi Patham Project Mandals. Community Coordinators have trained on the basic concepts of Self-Help Groups and Indira Kranthi Patham concepts with a practical session of using role-plays and other exercises. A community oordinator is appointed for a mandal. There have usually 10 gram panchayats in a mandal. The Community Coordinator is a paid employee of Mandal Mahila Samakhya. In addition to the Community Coordinator a Community Facilitator is present for each gram panchayat and the Mandal Mahila Samakhya pays the honorarium. The Community Facilitator is appointed by the village organization and each of these Community Facilitator gets paid Rs.500 per month. They have usually the members from the SHGs. The Community Facilitator goes around and helps in forming groups. The Community Facilitator helps train in book keeping and maintaining accounts.

Process of Implementation:

1. The process of implementation of CIF is very elaborate. The CIF is to be utilized for income earning activities like dairy, livestock, Drying Platforms for community use, etc
2. A micro credit plan is prepared by members of Self Help group (SHG) based on their skills and resources available. The SHGs have facilitated by the VO to prepare a list of all members along with their loan requests indicating the activity and loan amount. Here the preference is given to people Below Poverty line (BPL) or Poorest of Poor (POP). The members have facilitated to prepare the list of activities to be undertaken and compute the cost of implementation of these activities. Finally the

group would appraise the loan request and determine the loan terms such as amount of loan, installment amount, repayment period etc, and prepare a Micro Credit Plan (MCP).

3. Once the plan is ready it is sent to VO for appraisal. The appraisal is based on the regularity of savings of the group, lending of funds internally, maintenance of accounts, regularity of meetings, etc.
4. The VO also prepares a list of activities that have beneficial to the poor in the village such as food security, social development, infrastructure, etc. These along with micro plans of SHGs will become a Village Micro Plan (VMP).
5. The VMP is sent to Mandal Level Appraisal by Mandal Samakhyas. Finally the appraisal is sent to District Project Monitoring Unit for release of CIF.

Capacity Building (Training Programmes)

a. Training Need Assessment (TNA) has been done.
b. District Training Calendar and MVTC Training Calendars are prepared and Implemented after identifying the gaps.
c. All the Project Staff have been trained in IKP concepts, SAP, PTM etc.
d. Training Programmes have been organized to Self-Help Group's, Village Organizations (VO's) and Mandal Manila Samakhyas (MMS) and Z.S members.
e. Trained District Resource Persons and Line Department Staff.
f. HIV/ AIDS awareness workshops are arranged.
g. Gender workshops are organized and sensitized the groups.
h. Convergence workshop for IKP and Line departments are arranged.
i. Workshop on PRI – Pilot –Trainings organized to all the DRPs / PRI and IKP Staff.
j. Town Hall is utilized for organizing training Programmes.
k. Involved APMAS to support IKP staff
l. Involved DRPs of local NGOs & Line Departments. 100 Community Resource Persons underwent training in Yadadri Bhongir District and they were allotted to their cluster villages and their services are utilized for strengthening the Community Based Organizations.

Public Perceptions On IKP

One of the major issues in development is how to tackle rural poverty. The constraints to developing rural areas as well as the problems of this critical sector have come to loom very large. Rural areas present problems that are paradoxical of its natural resource endowment. Rural communities are marginalized in terms of most basic elements of development. The inhabitants tend to live at the margin

of existence and opportunities as most rural communities lack portable water, electricity, health care, educational and recreational facilities and motorable roads. Attempts to put rural areas on the course of development in Telangana over the past decades have not yielded much impact.Poverty alleviation has become a prime focus of economic policy, policy research analysis and development management. The need becomes particularly compelling in developing countries where poverty is most dehumanizing. Therefore, a major concern to governments, multilateral institutions and policy makers in different states is to identify appropriate strategy for poverty alleviation in the rural areas so as to bring about rural development.

Materials and Methods

This study carried out in Telangana state in rural areas of Atmakur and Mothkur mandals in Yadadri Bhongir district. The rural residents in the area constitute the population for the study. Purposeful and Simple random sampling technique was used to select the population for the study. A total of 380 beneficiary respondents of IKP from the rural areas of two mandals in Bhongir disrict in Telangana and Interview schedule used in collecting data from the respondents. Some socio-economic characteristics of the respondents were identified such as those that were civil servants, politicians, beneficiaries, residents, etc. Ages and formal educational qualifications of respondents were measured while gender, marital status was also measured at ordinary. The basic infrastructure in the communities in rural areas in telangana and the impact of the available infrastructure on the socio-economic condition of rural areas in Bhongir district also measured at nominal level.

Analysis & Discussion

The field study explains about livelihoods of people that out of the 228 respondents, 136 respondents (60%) have purchased milk cows, Auto Rickshaws, shop materials and agriculture equipment's etc. Through the IKP scheme and mere 40 per cent of the respondents (92) are not purchased anything through the scheme. Above all, it is concluded that 60 per cent of the respondents have purchased animals, shop materials and vehicles etc. through the IKP scheme. The study also 26 exhibits that out of 136 respondents, 15% (21) of the Atmakur respondents and 14% (19) of the Mothkur respondents prefer that they purchased Milk cows / Buffaloes through IKP Scheme. The frequency distribution for purchasing anything through the IKP scheme factor shows that 12% (16) of the Athmakur respondents and 16% (22) of the Mothkur respondents sense that they purchased Auto-Rickshaws through the IKP scheme. 14% (19) of the Athmakur respondents and 12% (17) Mothkur respondents are informed that they purchased shop materials and only 16% (Athmakur and Mothkur) of the respondents

purchased Agriculture equipment's, like Bulls, Tractors, Seeds, paid wages for the agriculture labour etc. Above all, it is concluded that nearly all most all same numbers of the respondents purchased Milk Cows / Buffaloes, Auto-Rickshaws, shop materials; however, the respondents purchased agriculture equipment's through the IKP scheme. From the analysis, it is clear that 24% of the respondents are increased their income source through the IKP scheme. 43% respondents benefitted in the production of agriculture by the purchasing of the Material and goods through the IKP scheme. 13% of the improved their skills and technology through the training programmes conducted by the IKP scheme. However, the data also clearly illustrates that 20% of the respondents got employment by the starting of the small shops and purchasing Auto-Rickshaws through the IKP scheme. From the field study analysis, it can be said that majority of the respondents are benefitted by purchasing of material and goods through the IKP scheme. While the remaining respondents have increased their income sources, improved their skills and self-employment. About informal and formal training from the education empowerment programmes and the IKP scheme, However, the field data also clearly illustrates that majority of the respondents have not received any training from their education and empowerment programmes and IKP scheme. Respondents who have benefitted fully are (55%) in giving education to their children, taking decisions in house hold activities regarding money matters, by improving their standard of living in accordance with the society. Some respondents have benefited partially are (30%) which requires for them some time to improve. Others who are not sure about their improvements are said to some extents are (15%).They prefer to be life members in the group rather than in any other Institutions, due to flexibility in getting loans and easy to access and approachable. Many respondents said that they have repaid their loans which they were indebted for years together.

Findings of the study

1. There is no relevant direction on the completion of Self – Help Group Schemes.
2. There is no proper deed on delay of funds.
3. There is no appropriate participation of politicians on rural development programmes.
4. There have inadequate funds for the execution of Self – Help Group Schemes of IKP.
5. Political leaders have no knowledge about Self–Help Group Schemes of IKP.
6. There is no exposure on Self–Help Group Schemes of and rural development programmes.

7. There is no administration and assessment of the government on achievement Self – Help Group Schemes of IKP.
8. There is no appropriate dexterity in between political leaders and government employees owing to accomplishment of Self – Help Group Schemes of IKP.

Suggestions

1. The Government should concentrate and direct on the completion of Self – Help Group Schemes.
2. The government should take care of release of funds.
3. The government should increase role of politician's participation on rural development programmes.
4. The government should release sufficientfunds to the executionof Self – Help Group Schemes of IKP.
5. The government should provide the training programmes to political leaders onSelf – Help Group Schemes of IKP.
6. The government should give exposure on self – Help Group Schemes of and rural development programmes.

Conclusion

Indira kranthi patham is a very significant programme in poverty reduction in Telangana it has great impact on rural poor. The study conducted in Mothkur and Atmakur mandals of Yadadri Bhongir Distrcit has significance change in the lives of poorest of the poor people.The government should administer and assess the achievement of Self–Help Group Schemes of IKP. All most all the respondents indicated that, there is a variance between income and the satisfaction of respondents towards IKP programmes.

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E-MARKETING: AN OVERVIEW

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Abstract
Every business concern wants to achieve its marketing objectives. In earlier time, in the traditional marketing, marketer promotes their product by various means like television, radio, print media, banners and large hoardings etc. People living in village and in backward area were not aware about any new launched product and service.In the traditional marketing, we have to wait for long time to get feedback from customer. It is not possible for the small retailers to compete with product of large companies. In the E- marketing, customers can see the product online and compare it with other alternative product and take the decision.

Keywords:E-Marketing, Internet Marketing,Social Media Marketing, Affiliate Marketing.

Introduction

E-Marketing (Electronic Marketing) is one of the modern concepts to promote the product world. E-Marketing is otherwise called Internet Marketing, Web Marketing, Digital Marketing, or Online Marketing. E-showcasing is the procedure of promoting an item utilizing the internet. It incorporates promoting on the internet, as well as incorporates showcasing done through email and remote media. It utilizes a scope of innovations to associate organizations to their clients.E-marketing is a marketing technique where we are planning and executing the conception, distribution, promotion, and pricing of products and services in a computerized, networked environment, such as the Internet and the World Wide Web, to facilitate exchanges and satisfy customer demands. It has two distinct advantages over traditional marketing. First, E-marketing provides customers with more convenience and more competitive prices, and second, it enables businesses to reduce operational costs.

Origin

The first-ever computer-to-computer link was established on ARPANET (Advanced Research Projects Agency Network), the precursor to the Internet, on October 29, 1969. Tim Berners-Lee, a British scientist, invented the World Wide Web (www) in 1989, while working at CERN. The web was originally conceived and developed to meet the demand for automated information-sharing between

scientists in universities and institutes around the world. After this, the yahoo.com domain was created on January 18, 1995. On July 5, 1994, Bezos initially incorporated the company in Washington State with the name Cadabra, Inc. He later changed the name to Amazon.com. In the Modern time, other websites like flipkart, mytraetc are existing in the e-marketing,

As businesses offer e-marketing and online shopping, customers can get market information from their computers or cell phones and buy goods or find services without leaving home, twenty-four hours a day and seven days a week (24/7). They can read ads on the web or from e-mail, get e-coupons, view pictures of goods, compare prices, and make purchases with a few clicks of their mouse, saving the time and money it would take to shop in person at a brick-and-mortar store. At the same time, e -businesses can reduce costs in distribution channels and physical store space and thus pass the savings on to customers.

Objectives of E-Marketing

The Objectives of E-Marketing guides why your business go online and give you a chance to estimate and monitor the online business activities and focus on strategies to grow your business online by capturing the competitive market's share. However, if E-Marketing is to be successful, then there is a need for 5 very clear objectives to be put in place as follows:

1) **SELL.** The main objective of every business is to increase sales. They wouldd this by reaching new customer, actively encouraging interaction, increasing conversations and engaging with probable customers. An example of this objective in action might see a sales team aim to increase sales by 20% in a 3 month period.
2) **SERVE.** The aim here is to add value through customer service. This only means that business is efficiently deals with customer online and clears their enquiries and doubts. This will ensure that customer satisfaction rates are kept high and will add value to the brand.
3) **SPEAK**. This is all about getting closer to customers through internet. An example of how a business may achieve this objective would be to start a regular communications campaign to their existing customers, perhaps even issuing newsletters and issuing regular mails to customers.
4) **SAVE**. The aim here is to maintain time wise and cost wise saving to identify opportunities for improvement. An example of how a business may undertake this objective would be to improve their website by adding a FAQ section to save staff the time.
5) **SIZZLE**. This means that a brand is going to need a special attention. Brand identity should be made in the mind of customers. SNS like facebook twitter and instagram can also have a huge impact on the sizzle of a company's digital marketing campaign.

Types And Methods of E-Marketing

1. **E-mail marketing :**Marketing through e-mail is one of the first methods of e-marketing. E-mail marketing includes marketing a product or service to a database through targeting a certain segment of customers via e-mails. Under Email Marketing, information about the productsare sent through e-mail to target customer and a link is provided to customer for online purchase of product. E-mail marketing is considered one of the best e-marketing methods because of its low cost, targeting the correct category, simplicity of use and increasing the return of investment from using it.
2. **Online Marketing**: It is also most effective method of e-marketing where promotional messages appear on a computer screen. Under this, the marketer uses the space of web page for advertise the product to attract the online internet users towards the products. The purpose of online advertising isto aware the target customer about the product.
3. **Mobile marketing:**Mobile Marketing is the promoting of products and services through the mobile phone. The Marketer sends the web link to target customer through sms and provide the detailed information about the products and services. Mobile advertising targets users according to specified demographics. Mobile networks identify related mobile profiles and preferences and displays corresponding advertisements when consumers download and uses data services like games, applications (apps) or ring tones.
4. **Blog Marketing :** Blog is discussion and informational website published on the world wide web. Posts are typically displayed in reverse chronological order, so that the most recent post appears first, at the top of the web page.Blog marketing is any process that publicizes or advertises a website, business, brand or service via the medium of blogs. Under this, advertising is place on some popular blog and payment is made to blog owner for advertising the product on this blog,
5. **Video Marketing**: Video has the potential to transmit large amount of information. Under video marketing, videos are showed to the target customer over the World Wide Web and aware the customer about the company, new product and service. Video Marketing is a method where any information can be learned and understood very easily in least possible time with the help of videos. Another benefit is reduction in boredom.
6. **Social Media Marketing**: It is a form of internet marketing that involves creating and sharing content on social media networks in order to achieve your marketing and branding goals. Under this, marketer posts text and image updates, videos, and other content that drives audience engagement.

Various types of social media channels like facebook, twitter, instagram etc are playing role in social mediamarketing today.

The main advantages of social networking sites are:

- Increased knowledge and reputation of your product, as a result your sales will increase.
- Increased customer loyalty for your brand by interaction with them using social networking channels.
- Immediate feedback from customers online.
- Find followers to your page and increase their number.
- Various Promotional schemes may be launched online for customer like sharing a discount coupon online.

7. **Affiliate Marketing:** Affiliate marketing is an advertising model where a company pays compensation to third-party publishers to generate traffic or leads to the company's products and services. The third-party publishers are referred to as affiliates and the commission fee incentivizes them to find ways to promote the company.

The industry has four core players:

- the merchant (also known as 'retailer' or 'brand')
- the network (that contains offers for the affiliate to choose from and also takes care of the payments)
- the publisher (also known as 'the affiliate')
- the customer

8. **Pay -per -click advertising: PPC** stands for pay-per-click, a model of internet marketing in which advertisers pay a fee each time one of their ads is clicked. Essentially, it is a way of buying visits to your site, rather than attempting to "earn" those visits originally.Pay-per-click (PPC), also known as cost per click (CPC), is an internet advertising model used to drive traffic to websites, in which an advertiser pays a publisher (typically a search engine, website owner, or a network of websites) when the ad is clicked.
9. **Search engine optimization (SEO): This i**s the process of affecting the online visibility of a website or a web page in a web search engine's unpaid results. In general, the earlier (or higher ranked on the search results page), and more frequently a website appears in the search results list, the more visitors it will receive from the search engine's users; these visitors can then be converted into customers.

Advantage of E-Marketing

1. **Geographical Barriers:** E- Marketing removes the Geographical Barrier. Now the Marketer can sell his product across the country only with one click. Every information about the products and services are now available online. Even immediate customer feedback is possible through E-Marketing.
2. **Reduction in costs through automation and use of electronic media-** Internet Marketing requires no large capital investment. Small businesses have limited resources and less capital, so E-marketing provides them with more cost-effective channels that deliver results.
3. **Prompt Payment**: One of the greatest advantage of E-Marketing is that with e-commerce enabled sites, the seller gets their payment easily and conveniently online through Debit cards/credit cards/e-wallets etc.
4. **24x7 hours services**: Online marketing services are available 24 hours a day, 7 days a week,so that the buyer and seller can access it any time.
5. **Interaction with target audience**: Internet marketing is characterized with real-time interactions that can connect your business much more effectively with targeted customers, facilitating direct interactions with target audience. The marketer will get to know what the customer wants. The reviews of the customers will be noted and the products and services will be shaped accordingly.
6. **Results are measureable**: Every click or visit to website/web page, sign up, online purchase is measureable and it will get help the marketer to know which particular page or tools will work for them and will bring good results.
7. **Real Time Basis** : In case of E-Marketing, a Marketer can stay connect with customer on real time basis. Whenever, a new promotional offer is declared, it can be send immediately to all customer by e-mail and at the one time, one e-mail can be send to multiple customer, so that the customer can avail these offers.
8. **No Waiting Time:**In earlier time, when the product was not available at the shop and was out of stock, then the consumer would have to use substitute product. But now in e-Marketing, all the products from the world are available online and there is no waiting time for availability.

E-Marketing in India

In the 21st Century, India has been growing in the field of internet. Internet users are increasing year to year. India's internet users expected to register double digit growth to reach 627 million in 2019, driven by rapid internet growth in rural areas, market research agency Kantar IMRB said.Internet

usage in the country has exceeded half a billion people for first time, pegged at 566 million, driven by rural internet growth and usage.In its ICUBE 2018 report that tracks digital adoption and usage trends in India, it noted that the number of internet users in India has registered an annual growth of 18 percent and is estimated at 566 million as of December 2018, a 40 percent overall internet penetration, it observed.It projected a double digit growth for 2019 and estimates that the number of internet users will reach 627 million by the end of this year. Smart phone users in India are showing good results.

In 2015, a little over an estimated 199 million people in the country had smart phones, or about 26.3 percent of all mobile users.The number was expected to climb by 100 million by 2017, and hit 340 million last year. In 2019, we can expect almost 374 million people to own a smartphone, about 39 percent of all mobile users. By 2022, it's expected to hit 442 million smartphone users in India.

In India, the trends of doing online purchase and selling of products are moving fast. Since, banking sector has also playing important role in this case. EMI facilities are also provided in Debit card and Credit Card and some dealers give instant discount on using some specified bank's debit card and credit cards. People are now tension free and there is no tension of carry the cash all time as they are using the various type of online Wallets like paytm, Phonepe, Google Pay etc for online purchases.

Indian e-commerce industry is flourishing. According to a study by Forrester Research, approximately 1/5th of total retail sales will take place online by 2021 in Asia Pacific, with 78% of that coming from mobile, up from 63% in 2016. The study adds that online retail via mobile will grow at a CAGR of 15.6%, to reach $1 trillion in 2020, up from $539 billion in 2016. The growth in the e-commerce sector is also attributed by growing share of consumer to prefer to shop on line.

Challenges of E –Marketing in India

1. **Dependence on Technology**: E-Marketing is possible if everyone is accessible to internet. But in backwards areas it is very difficult to access internet for various reasons. So in the modern world, a large number of consumers are unable to use or have no access to internet services.
2. **Lack of Knowledge and Skill :**Every marketer wants to make their web page and website more popular and attractive which requires more skilled and technical workers. The cost of hiring such type of workers is very high and it is not possible for every marketer to hire them.
3. **Face to Face contact is not possible:** Under E-marketing, face to face contact is not possible. Every inquiry, suggestions and complaints of the

customer cannot be sorted out immediately and this may move our valuable customers to other seller.

4. **High installation charges**: The cost of purchase of website and its maintenance is very high. Moreover, the installation of hardware and software required to execute E-Marketing tools is very costly.
5. **Fake sites and Spam E-mails:** There are lots of fake websites available in the internet that looks like original website and its make confuses to customer and rob their money. Spamming and hacking are biggest problems and in this case, Hackers can steal the customer money.
6. **Lack of Privacy :**under E-Marketing, sometimes customers are asked to enter their mobile no/email address/ Bank account number/contact no. which they do not want to share due to privacy. People install the application without reading the terms and conditions.

Conclusion

Since India is growing fast in the field of technology. But as a developing country where poverty is still a curse upon humanity, it is not easy to the people about the E-marketing. Still in some area, people are still living in dark and in some place, people are using innovative products.

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^getkn miU;kl eukgj ";ke tk"kh dk cgpfpr miU;kl gA tk ckt kjokn o ithokn d mÙkj vk|kfxd nkj dh ifj.kfr dk dPPkk fpVBk gA viuh fo"k'k Hkko&Hkkfxek vfHkuo f"kYi i;kx gh bl miU;kl dh fo"k'krk ugh g] vfir bl miU;kl e vkifuof"kd nkj dk ie[k ennk cu pd ckt kjokn o ithokn dk ijr nj ijr [kkyk x;k gA vkj ;gh bl miU;kl dh fo"k'krk g fd bl i<r le; lkjh ckr ijr nj ijr [kyu yxrh gA getkn miU;kl dk i<u d ckn yxrk g tl gekjh lkp okfNr gk xb gk lLdkjk d chp cuh gekjh ^le>* VVu yxrh gA miU;kl d ik= u rk dkb egku ln"k n ikr g] vkj u gh dkb ifreku gekj le{k mifLFkr djr gA lep miU;kl e egkurk dk vUr fn[kkb nrk g] cM vkj xHkhj fjLr VPPk vkj ?kfV;k fn[ku yxr gA tgk lEcU/kk d lehdj.k fufer gkr g og ^getkn* e vkdj ,dne myV tkr gA ;gk lehdj.k lEcU/kk dk fuek.k djr gA o;fDrd lEcU/k ;gk /ky l x; g fn[kkoVh lEcU/k mHkj g, :Ik e fn[kkb iMr g lEcU/kk dk ;g ^^Q"ku** ijEijk vk/;kiku getkn e fn[kkb iMrk gA**[1]
ekDl dk le; vk|kfxd ithokn dk le; Fkk vkt cgjk'Vh; fuxek oky ithokn dk le; gA ekDloknh fpUrd vuLV eMy u yV&dfiVfyTe ^"kh'kd* viuh iLrd e dgk g fd ge ith d u,&u, :ik dh iu0;k[;k djuh gkxhA D;kfd ith dk vFk cny jgk gA gkykr ;g gk x; g fd ithokn fo"o ckt kj ;k fo"o ckt kjokn dh fLFkfr rd igp x;k gA mlh u ub rduhdh ØkfUr dk lHko cuk;k gA vkj mlh u ijh xfr d lkFk cgjk'Vh; fuxek fd lÙkk dk ckt kj d opLookn e LFkkfir dj fy;k gA yV&dfiVfyTe ^^ith dk og vfr:Ik g tk rduhdh Økfr dk uD"kk cnyrk g vkj ith dk fuek.k djrk g] vkj mRikndrk dh xfr dk cgn rho dj nrk gA blh rho ithokn vkj ckt kjokn dh Li/kk u ikfjokfjd lEcU/kk d lehdj.k cny fn; vkj lEcU/kk dh lgtrk u'V dj nhA**[2]
e/;dky e b"oj l Lor= dN Hkh ugh Fkk vk/kfud dky e gekjh rd cf) l Lor= dN Hkh ugh gA yfdu vkt d nkj e ge ikr g fd ith u gekjh pruk ij vkf/kiR; tek fy;k g vkj vkt ith l Lor= dN Hkh ugh gA lkekftd ekun.Mk] vkn"kk] ifrekuk] eY;k] vkLFkk, jhfr&fjokt lc vFk d dUn l fu/kkfjr gku dh fLFkfr e gA getkn e ^^ukjdh;kuh** Hkkx vkj foykflrk dh oLrvk dk viukr g, ^vry* /ku lEink ,df=r djrk g] ^Vkiu* dh ftUnxh e Hkh ,d L=h nljh L=h dk vinLr djrh pyrh gA vUrr% tc mldh Lo; dh ik=h mldh ftUnxh e vkrh g rk og Hkh ,d ^^fn[kkoVh Q"ku** dh rjg vkrh gA 0;fDrd lEcU/k ;gk /ky l x; g mld mijkUr ge ikr g fd reke ykx ftue r[rjke t l ykx Hkh g fL=;k dh ,d cMh Qkt mldk lkfu/; iku d fy, rukr jgrh gA**[3]

u;h mÙkj vk/kfud fLFkfr;k e &^{k.k Hkxjrk* dkb Hkh pht fLFkj ugh gA ckt kj dk ,d mRiknd nlj mRiknd dk ^DokfyVh* d vk/kkj ij rjURk gVkdj mldk LFkku xg.k dj yrk gA ^ukjdh;kuh* ljLorh tlh ^bEikjVM* oLRk d ikIRk gk tku ij euk dk NkM nrk gA getkn e fL=;k dk Ropk ;k oLr l vf/kd egRo ikIRk ugh gA

Hke.Myhdj.k d nkj e fopkj /kkjk dk opLo lekIr gk x;k g getkn dk ikjEHk gh ogh l gkrk gA tgk --------A fopkj/kkjk dh lÙkk lekIr gk tkrh gA bldk ikjEHk Cydey dh fLFkfr;k l gkrk gA vkj mldk lokf/kd fodr :Ik ml le; n[ku e vkrk g tc ukjdh;kuh mldh gh ^i=h ehuk* d lkFk ge fcLrj gku dh ckr eu e ykrk gA**[4]

ckt kjokn Loluk d vr dk j[kkfdr djrh gA Loluk dk vr gkuk Hkfo'; ghurk dh fLFkfr gA Hkfo'; l oreku vjktd gk tkrk gA og mÙktuk vkj Lokn e cnydj jg tkrk gA mle l nf'V xk;c gk tkrh gA mÙktuk dk Lokn RkkRdkfyd lnHk e vfuok; gk vkr gA ^getkn* d lep okrkoj.k e ;g mÙktuk vfHk0;ftr gkrh fn[kb nrh gA ltukRed "kfDr dk bruh vio vkj mRlkgi.k miyfC/k;k l vkjEHk gvk] vr bruh fujFkd vkj ?kkrd ^fuf'Ø;rk* e gvk g bfrgkl e bldk nljk mnkgj.k ef"dy --------gA**[5]

;gk ge ikr g fd fuf'Ø;rk dh vkj ^^vUuk vkjUM** ldr dj jgk gA eyrh og ekuoh; lekt dh ekuork d ifr fuf'Ø;rk dk ldr gA tk lkxBfud vkj lkekftd Lrj ij fn[kb nrh gA vU;Fkk 0;fDrd vkj RkkRdkfyd Lrj ij 0;kid lfØ;rk ge n[kr gA ckt kj lfØ; 0;fDrd ^lfØ;* gA ijh nfu;k e ykHk deku d fy, fctyh l Hkh rt xfr l nkMrh gb ith lfØ; g] lkFk gh ckt kj :Ik; dk ,ekmUV ekxu d fy, lfØ; g] fryd dh cgu ^Lugob* dk lgk;rk nu d fy, lfØ; g fdUr ;g lkjh lfØ;rk, viu rkRdkfyd ykHk vkj mÙktukvk dh "kfUr d fy, fleVdj jg tkrh gA**[6]

^^fe"ky Qdk* dk dFku g fd & ^^lkxj d fdukj jr ij cuk; x; pgj dh Hkkfr eu'; dk fu"kku feV tk;xkA** ekuoh; lEcU/kk e lonuk vfuok; gkrh g] yfduvkt ;g lEcU/k lokfy;k vkj lfnX/k gk mB gA lonukvk dk ylr gk tkuk eu'; d fu"kku feVu dk ldr gA reke ?kVukvk d vk/kkj ij ^getkn* dk vkjEHk gh eu'; dh lonughurk l gkrk gA tgk ,d 0;fDr viu vkJ; nkrk d i= ^t;no* dk ^^CYkdey** fd nf'V l i= fy[krk gA ^^r[krjke /kj tkr mlQ vgenijh d vknkc doy QjekoA dy gkoyckj e vkd ikikth d mBky d ckn ege dh ;kn e vkid lkFk pkj tke vkj ih yu d ckn tc eu vkidk Cydey dju dh dkf"k"k dh rc "kk;n e viu gk"k e u Fkk ml xLrkxh d fy, vkil cgr&cgr evkQh pkgrk gA**[7]

Vkiu viuh ckY;koLFkk l gh reke n'dek e fylr gk tkrk g] pkjh "kjkc] t,] tl x.kk dk og vYik; l gh vkRelkr dj yrk gA rhuk cguk dh "kknh c< chekj 0;fDr;k l djrk g ftud fj"rnkj u d cjkcj gkr gA le; d tky e rhuk cgu fo/kok gkrh gA mudh tehu ij Vkiu ^dCtk* dj yrk g vkj lEcU/kk dk /kohdj.k dj ckt kjokn ,o ithokn dk ifjp; nrk gA Vkiu dud ij cjh nf'V Mkyrk g mll fryd Økf/kr gkdj Vkiu dk fgnk;r nrk g ml ij Vkiu Vdk lk mÙkj nrk g ^^dud rjh cgu g] ejh ugh vkj ejh cgu Hkh rk D;k ykx ejk uke cgu dh xkyh fn; cxj yr gh ugh frydA**

Vkiu tlk le) 0;fDr Hkh ckt kj d pxy l Lo; dk eDr ugh dj ikrkA ;gk /keohj Hkkjrh dh ;g ifDr;k egRoi.k yxrh g ftl mUgku nlj fo"o ;) dh lekflr d lk"pkr if"peh lekt dk eY;kdu djr g, fy[kk g& ^^if"pe dh leLr 0;oLFkk rQku e iM ,l lekt dh rjg gk x;h g ftld iky dV pd g] irokj VV pdh g ek>h cdkj gk pd g] mÙkky ygjk ij fu:n"; Mkyrk gvk ,d fo"kky ikrA**[8]

;gk e ,d ckr fo"k'k rkj l tkMuk pkgxk fd lepk fo"o ,d fo"kky fu:n"; ygjk d vk/khu ckyrk gvk ^ikr* jg x;k gA ^getkn* e fpf=r leph lEcU/k 0;oLFkk pkg og lkekftd] vkfFkd ;k ikfjokfjd D;k uk gk mldk LFkkf;Ro lekIRk gk x;k gA eY;] lLFkk,] ijEijk,] lEcU/k lc mle HkVdr l utj vkr gA vkt d bl ithoknh ;x e ^getkn* thou dk ckt kj fu/kkfjr

djrk gA pkjk rjQ ^xyk?kkV* ifr;kfxrk g] lc bl gkM e vkx fudy tku gr gkFk&iko ekj jg g tkfgj g ble bekunkjh ,o fu'Bk dk ^vfLrRo* dc rd cp ik;xkA getkn dk ik= Vh-d-blh ithokn 0;oLFkk dk y?k ifr:Ik gA**[9]
ckt kjokn u lLdfr dk vilLdfr e cny fn;k g vFk {k= vkj lLdfr {k= ,d gk x, g lLdfr Hkh ,d ithoknh 0;oLFkk cu xb gA lEi.k e/;e ox vkt Hkkfrdrk fd nkM e iMdj ,d fof"k'V ithoknh ox e Nykx yxku dh tnnktgn e iMk gvk gA Hkkfrdrkoknh nf'V] miHkkDrkokn ckt kj] ckt kj dh ckfMM lLdfr bUg ^Øth* cuk jgh g vkj ckt kj bUg HkMdkrk g vkt i= ekrk&firk l ilk dk fglkc ekxrk g] ;gh lcl cMh ^=klnh* g & ckt kjokn] ithokn dh gj dkb pht] fj"rk vkt ilk ij rkyk tku yxk gA**[10]

fu'd'kk %& tk"kh th dk getkn miU;kl ithokn vkj ckt kjokn dk dPPkk fpVBk iLrr djrk g vkj crkrk g fd pfj= fuek.k dh fn"kk ;fn Bhd ugh g rk n< ldYi fouk"kdkjh Hkh gk ldrk gA ;g "kfDr fu'Bj 0;fDr;k dk "krku cukdj vud vufrd dk; d fy, mdlkrh gA ^^getkn* of"od Lrj ij c<Rk ckt kjokn dh eukofr dh mit g tk ng&l[k Hkkfrd l[k d fy, ufrdrk dk gkl vkj vkneh fdruk fxj ldrk g bldk ueuk i"k djrk gA bl miU;kl e gokfu;r viuh pje lhek ij g L=h i:'k "k) uj&eknk d :Ik e g tk ithokn vkj ckt kjokn dh ifj.kfr dk ltk; g, gA

lnHk xUFk %&
1- d'.knÙk ikyhoky% mÙkj vk/kfudrkokn dh vkj] vk;idk"ku e.My fnYYkh&2008] i'B 60
2- eukgj ";ke tk"kh % HkhM e [kk;k gvk lekt] ok.kh idk"ku& 2010 i'B 58&59
3- eukgj ";ke tk"kh % getkn] jktdey idk"ku fnYYkh & 1996] i'B 113
4- eukgj ";ke tk"kh % getkn] jktdey idk"ku fnYyh & 1996] i'B 05
5- eukgj ";ke tk"kh % getkn] jktdey idk"ku fnYYkh &1996] i'B 60
6- eukgj ";ke tk"kh % getkn] jktdey idk"ku fnYYkh &1996] i'B 73
7- noUn bLlj % mÙkj vk/kfudrk lkfgR; vkj lLdfr dh ub lkp&1995 i'B&152
8- eukgj ";ke tk"kh % vkt dk lekt] jktdey idk"ku fnYYkh&2007] i'B&252
9- /keohj Hkkjrh ekuo eY; vkj lkfgR;] Hkkjrh; KkuihB& 1999 i'B & 55
10- eukgj ";ke tk"kh & getkn] jktdey idk"ku fnYYkh& 1996 i'B& 49