The Challenges and Prospects of India in the 21ˢᵗ Century

Dr. Akhilesh Shukla

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Govenment of India

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PREFACE

It is human nature to accept challenges. The history of human civilization is full of challenges. Whenever there was a big obstacle in front of us, we faced it firmly. Even after living among the fierce wild animals, the primitive man was successful in establishing a distinction between them and establishing an independent existence. After passing through many stages, we have now reached the twenty first century. If we look at the two centuries behind it, then it will appear full of scientific events and modern ideology. The human achievements of these two centuries are very important as compared to the previous several centuries because we have successfully tried to break the traditions and stereotypes in every field. Earlier prosperity was limited to a few people but now it has become widespread. It gives us pleasure to present to you an edited book on the challenges and prospects of India in the 21st century. Research papers and accounts of various scholars, research students have been included in this book. What kind of challenges are facing us in the present times and how these challenges can be solved, it has been considered. Everyone believes that even though a lot of challenges are standing in front of us in the coming time, but once the person who will overcome them and overcome them, there are many possibilities for him.Unemployment is a common question before the Indian society in present times. In India, about 14.30 crore youth above the age of 20 are looking for jobs. Reports published nationally and internationally are also expressing concern on this subject. The present era is the era of mechanization. Robots are taking the place of humans. There is a crisis in government and private jobs. Even in the midst of this problem, we will have to try to find harmony, only then the youth will get the right direction. E-market has expanded in India. According to the Assocham report, in the year 2014, the e-market market was $ 17 billion. In 2016, it crossed the $38 billion threshold and provided employment to about 2.5 million. It is estimated that about three lakh new jobs will be created.More recently, the Government of India has implemented the new National Education Policy to solve these problems and Madhya Pradesh is the first state, which has implemented the new National Education Policy from this session itself. Along with self-employment, the new education policy will also inculcate a sense of value and morality among the youth.The changing lifestyle is also a challenge before the Indian society in the present time. According to the World Health Organization, about 23 lakh youths in the age group of 10 to 24 years in India become victims of premature death every year. The main reason for this is the changing lifestyle. Modernization of multinational companies and work has eliminated the distinction of day and night. Drug addiction is emerging as a major challenge before the

Indian society at the present time. India ranks second in the world in terms of drug abuse. Here 10.80 million youth are in the grip of smoking. Every year 10 lakh people are dying due to smoking in the country. About 21.4 percent of the youth in the country are victims of alcohol abuse. 0.7 percent of people take opium and 3.6 percent of people take banned drugs. Naxalism and terrorism is also weakening our society. Our neighboring countries have been trying to mislead the youth and involve them in terrorist activities. At present, there are more than 800 Naxalites and terrorist groups active in the country. Corruption is a big problem facing the Indian society. Federation of Indian FICCI, India's leading business body, says that every year corruption in India causes a loss of $ 7 billion. Corruption has a direct impact on investment and youth are affected by it. Gender discrimination is a big challenge for today's youth and development. In India, 41 per cent of the accused in heinous crimes like murder, rape are youth in the age group of 18 to 30 years. Apart from this, the hi-tech society is also getting caught in the grip of cybercrime. There is continuous migration of the population of the villages towards the cities. In 2050, more than half of the world's 10 billion people will be living in just 10 countries. Out of these 10 countries, 4 have been declared by the UN as the most backward. As rural populations migrate to cities, the pressure to create new jobs and maintain urban services will increase. Transport system and housing for the cities of the future, these two areas need to be given the most attention. New thinking in these areas will mean more investment in space creation, cleanliness and mobility enhancements. Clean environment is our primary need, we have to make serious efforts towards the environment, only then the coming generation will be able to carry forward the possibilities of development by staying healthy. India has taken important steps in the last few years regarding cleanliness and its positive results are coming before us. Not only hope, we have full faith that we will get your positive suggestions.

Professor Akhilesh Shukla

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Achieving inner peace in 21ˢᵗ Century: Perspective of Bhagwat Geeta

• **Ms. Shefali Upadhyay**
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Peace is the need of an hour for the world in all the fronts e.g., economic, political, social, cultural etc. the present age is considered to be the ''Age of Stress and anxiety''. Stress and anxiety are experienced in all the fronts at global level and it deduces to the individual level. As Mahatma Gandhi quoted, "Outward Peace is useless without inner peace". The present study focuses on ageless teachings of Shrimad Bhagwat Geeta, which talks about achieving inner peace through the way of life. It clearly mentions in the chapter 2, verse 66: **नास्ति बुद्धिरयुक्तस्य न चायुक्तस्य भावना। न चाभावयतः शान्तिरशान्तस्य कुतः सुखम्॥** that peace is important to be happy for any individual.

आपूर्यमाणमचलप्रतिष्ठं
समुद्रमापः प्रविशन्ति यद्वत्।
तद्वत्कामा यं प्रविशन्ति सर्वे
स शान्तिमाप्नोति न कामकामी ॥

Verse 70 of same chapter of Shrimad Bhagwat Geeta states that Just as the ocean remains undisturbed by the incessant flow of waters from rivers merging into it, likewise the sage who is unmoved despite the flow of desirable objects all around him attains peace, and not the person who strives to satisfy desires. If the preaching of Geeta can be inculcated in daily lives of individuals than it helps to bring inner peace and as individual is the base of global harmony it ultimately attracts peace on a larger scale. Mahatma Gandhi stated in his Autobiography, "My Experiments with Truth" that he inculcated teachings of Geeta in his life and that led him to the freedom of India. His life is his message to us and it concludes that to receive inner peace

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Shrimad Bhagwat Geeta's way of life can be applied in our lives.

Introduction- "Human beings can never obtain peace in the outer world until Human beings make peace with ourselves" Dalai Lama. As quoted by H. H. D. L Dalai Lama, that if Human beings want peace in the world they need inner peace. Peace with ourselves is as important as our overall health. Everyone in world needs peace. Nobody wishes to have fights, wars, imbalance; yet all prevails. All search peace outside. However, as quoted above Human beings can't find peace in world without finding peace within. Inner peace refers to a state of being mentally and spiritually at peace, with enough knowledge and understanding to keep yourself strong in the face of adversity or stress.

Inner Peace:

manaevamanushyanam
karanambandha-mokshayoh
bandhayavisayasango
muktyainirvisayammanah

"For man, mind is the cause of bondage and mind is the cause of liberation. Mind absorbed in sense objects is the cause of bondage, and mind detached from the sense objects is the cause of liberation." (Amrita-bindu Upanishad 2). A person without a fixed purpose has an unsteady mind. It also conveys that there is no one but ourselves to blame for our problems: neither God nor any oppressors.

W.H.O Definitions- "Health is a state of complete mental and social well being besides physical well being." Social Well being, it has said that 'the ability to maintain a reasonable and long standing relationship with friends and family and a certain amount of benevolence, or at least absence of malice and vicious intentions towards fellow beings are signs of social health." One is mentally healthy if one is 'happy, calm, and of cheerful demeanor and has feeling of satisfaction and is at peace with himself and is somewhat considerate and has understanding personality and has some amount of self control."- Brahma Kumari Ishwariya vishwavidyalaya, Mt. Abu

Mental Health is nothing else but an inner peace. Inner

peace is impossible if it is dependent on any external individual, object or situation as all the three are subject to change.

In Bhagwat Gita the person who achieves inner peace is called 'Sthitpraghyna' and the characteristics of such an individual are described which can very Well be related with mentally healthy person such as described by Abraham Maslow as per 'self actualized Individual' or described by Carl Rogers as 'Fully functioning' individual.

Sthitapraghnya is a man of self control and such an individual will have all his senses under his control. And such an individual will be able to control all his senses and utilize them in all his actions. – GeetaPravachan by VinobaBhave.

There is a constant conflict going on within human mind. When there are alternatives or one has to take decision or one has to select, there lies possibility of conflict. One need to take such decisions at different point of time in life and such decision-making is not always easy. Similarly, Arjuna had to decide in the battlefield of Kurukshetra. Battle field described in Bhagwat Geeta is a metaphor for this constant ongoing conflict of human mind. All these conflicts ultimately lead to sadness, worry, frustration, anxiety or depression.

In nature, there are natural forces of attraction and repulsion, even between two objects. Plants and animals are drawn to food and shun threats. Over and above this, humans cling (raga) to property that grants them value in society. Human beings convince ourselves that our social body defines our identity. Human beings cling to goals or rules, to property or relatives, to titles or ideas, and fight over them as animals fight over territory. Clinging is comforting. Insecurity fuels desire (kama) for more, and so acquiring more becomes the purpose of life. Human beings get angry (krodha) when Human beings don't get them, become greedy (lobha) once Human beings get them, get attached (moha) to them, become intoxicated with pride (mada) because Human beings possess things, feel jealous of those who have more and insecure around those who have less (matsarya). Material reality thus enchants us and crumples our mind several times over. These are called the six obstacles that prevent mind form expanding. Human beings also shun

(dvesha) things out of fear. Human beings avoid taking ownership, responsibility or proprietorship in fear. Human beings are terrified of failing, and so avoid struggles. Human beings are terrified of the outcome, and so refuse to take any action. Human beings clearly demarcate what is mind and what is not mine. If attraction of things makes us householders, and revulsion of things makes us hermits, then neither is actually wise, as neither accepts reality. As householders, Human beings wish Human beings expand the mine, sometimes at the cost of yours. As hermits, Human beings want to shun even what is mine and reject all that is yours. Am I aware of my fears that make me greedy, stingy and controlling? What stops me from being generous materially, emotionally and intellectually? Liberation, essentially, is letting go of our insecurities that disconnect us from others. (Patnaik, 2015).

Arjuna, the senses exist beyond the physical; mind beyond the senses; intelligence beyond the mind. Beyond intelligence is your sense of self. By knowing who you really are you will conquer all yearning-Bhagwat Geeta: chapter 3, verse 42 and 43 (paraphrased). (Patnaik, 2015)

The conceptual reality of self makes a person function without fear, and gain insight about life without imposing the filter of conflict.

What is Peace? Peace is a state of calmness and mental composure. It is a state untouched by any negative thoughts and is characterized by equanimity and mental balance. In the state of peace one has the combined feelings of super sensuous joy, contentment, well being, mental ease and freedom of spirit. One can have this state only when one has inner harmony between one's mind and intellect and one is free from any twitches and pains of conscience and neither fear nor worry nor is one disturbed by lack of fulfillment of desires or waves of the Well known six vices. This state is not to be identified with dullness or passivity but its main characteristic is that one does not have any emotional disturbance.

How Can Science and Spirituality Be Partners? Let us first take up the last stated constituent of peace, namely the fulfillment of desires. Spiritual wisdom enjoins on man to lead a

life of simplicity, moderation and minimum desires. It asks one not to hanker after more and more worldly luxuries or pleasures. A Well-known Indian adage says that 'though man himself grows physically old, his desires grow young and become more compelling'. It, therefore, advises man not to be over ambitious, for it is almost impossible for a man to fulfill all desires, and those desires which are left unfulfilled, give man sleepless or dreamy nights and days of depression and frustration. If one suppresses desires, one gets mental and physical ailments because of repression and if one tries to fulfill them, they multiply manifold.

Another problem raised by desires is that if someone stands in ones way of fulfilling one's desires, one feels hatred and anger towards that man and, in this fit of anger; one loses one's sense of judgment and balance. Identifying one's desires as one cause of ceaselessness, the Geeta have expressed the analysis beautifully, it says: From lust arises tension and anger. Anger leads to mental confusion, imbalance and loss of the sense of proper judgment. Man's intellect having thus been clouded, he loses all and is led to his ruin. Therefore, know you Arjuna, that "Lust, anger and greed are the three doorways to hell i.e. to peacelessness and sorrow." Spiritual wisdom, therefore, guides man to sublimate his desires; it gives man a world view which enables him to find an inexhaustible mine of happiness and peace in the self. It thus enables man to abstain from anger and greed and from lust.

A saint-poet, named BhartriHari, who was a king of a state in India but later renounced, has expressed this truth from another angel. He says: "The thrust of strength of our desires does not weaken; it is Human beings who weaken." I invite your attention to the beautiful scientific truth in the first and second lines of this quartlet. It says that it is not Human beings who consume things but the things consume us too. It is not the time that is moving or marching fast; it is Human beings who are moving (towards our death). What he has said is an Indian version of the second Law of Thermodynamics, given by the saint-poet on intuitive basis. Isn't this spiritual implication of the Law of Entropy which says that our every act results in the loss

of energy? It is one point where science and spirituality meet. The second Law of Thermodynamics is the most irrefutable and fundamental law of physics; and simplicity or minimization of desires and consumption is fundamental principle of spirituality – both recognize the same truth in different forms. Shiv Baba and Brahma Baba, the founding Fathers of the World Spiritual University of Brahma Kumaris, have also said the same thing. Baba has said: "The less you spend, the better, the wiser and greater you are." And "simplicity, minimization of desires and consumption, and the adoption of the principle of purity are the highest principles." Human beings have seen the adoption of these principles." For peace, one need not become a hermit or a recluse but one must lead a natural and simple life. Man thinks that he is making rapid progress and that civilization has spread fast but, in term of the second Law of Thermodynamics, man is enormously, nay, unimaginably using the non renewable sources of energy and natural Wealth and is polluting the world. By supplying more and more comforts and luxury goods, besides consumer items, it has whipped up desires in man. Man to day needs or desires thousands and one more things than he needed say two hundred years ago. The whole human effort now seems to be geared up to production, acquisition and consumption of goods. In a sense, man has now become more dependent on material things which by their very nature, are transitory and ephemeral and make man pleasure hungry and discontented. The desires have thus increased manifold due to man's giving long rope to them. This has resulted in loss of peace because despite best efforts, many desires of man remain unfulfilled. One thoughtful person has given a mathematical equation to find out how much peace a person has in proportion to his desires. He has said that

$$\text{Peace} = \frac{\text{Number of desires fulfilled}}{\text{Number of desires unfulfilled}}$$

Since the number of unfulfilled desires, lying hidden in man's mind or finding expression in various forms, is far greater than the number of desires fulfilled, man has, in his mind, only small fraction of peace. The more the man reduces his desires, the more peaceful he will be. So science can be an active partner

for peace, if besides giving various laws of physics, it makes known to man the sad result of ever increasing trend towards consumerism. It should also tell people that nothing in this world is permanent. Every proton, electron and neutron also disintegrates. It should explain to man that, according to the Entropy Law, the more Human beings consume, the less remains available energy and the more Human beings advance towards death. It should thus teach man to be frugal and to adopt simplicity, for this spiritual truth is also the scientific truth. It should also explain that one effect of high consumption culture is more and more pollution of the atmosphere.

Interpretation- Thus Human beings can deduce that a man who has control over all his senses can enjoy a balanced state of mind and inner peace otherwise the senses control his thoughts, feelings and acts which may lead to different psychological problems such as stress, anxiety, worry, sadness, depression, aggression and so on and on and it may lead to maladjusted patterns of behavior and the viscous cycle goes on. In the third chapter of Geeta it is mentioned that generally human beings keep their focus on a particular situations, objects, individuals and they feel they will be happy or satisfied once they achieve it but this does not happen. Desires cannot be satisfied permanently by satisfying them rather such as fire cannot be put off by adding fuel to it. Satisfying once own sensory wishes are compared to adding ghee in fire, instead it raises the fire. Similarly if individual keeps trying to achieve peace by going on satisfying them then individual gets trapped in the vicious cycle.

Shrimad Bhagwat Geeta:

"Om Parthaya prathibodithambhagawathaan arayanena swayam,Vyasaenagrahi thamPurana muninaamadhye Mahabaratha, Advaithamru thavarshaneembhagawtheemashta dasadhyayineem, Ambaath waamanusan dadhamibhagwadgeethaa bhava dweshineem"

That which was taught to Arjuna by Lord Narayana himself, Which was written by the epic sage Vyasa in the middle of Mahabaratha, Oh Mother goddess who showers the nectar of advaitha (non-duality) called the Bhagawad Gita, Which has eighteen chapters, I meditate on you mother who removes all

past [karma](#). As the above shloka mentions, Shrimad Bhagwat Geeta is written by Maharishi Vyas and it is a part of epic Mahabharata. It contains eighteen chapters each focusing on different aspects of life. It is renowned that it was said by Lord Krishna in the middle of the battle field of kurukshetra. This epic battle was fought between Pandavas and their cousins Kauravas and during that battle Arjuna being overwhelmed by emotions towards his extended family lost all his energy to fight the battle which was necessary or the betterment of society. On this Lord Krishna became his Guru and gave him lessons of life through narrating Bhagwat Geeta. This book contains the nectar of Advaitha (Non duality), and also considered as a part of Vedanta i.e. it is the gist of the knowledge of all Vedas and Upanishads.

The Geeta does not speak of changing the world. It speaks of appreciating the world that is always changing. Belief in one life makes us want to change the worlds, control it or resign to the way things are. Geeta helps us to appreciate all three possibilities, without clinging to any. (Patnaik, 2015). It includes talks about yoga, well-being of person (kshema), karma, gyana and above all moksha (liberation) in just one book, this suggests that it contains each and every topic of human life in it. It describes the way through which Human beings can rise above our sufferings and attain eternal happiness and peace. It suggests karma yoga and gyana both are ways to attain liberation and it can lead us to'our strive of enlightenment', it also focusses on nature of mind and ways to contemplate it. Knowledge of Brahman and yoga, the relationship between both, balance between them and nature of both are described in detail in Geeta.

It's in Sanskrit and thus, individuals find it difficult to interpret it; however, many scholars such as Sri Adi Shankaracharya, Ramanujacharya, Madhavacharya, Lokmanya Tilak, Swami Dayananda, etc have given their commentaries on it. Few people like Mahatma Gandhi, Devdutt Patnaik, etc have tried to extract the knowledge of Geeta and penned down their own interpretation of it in their book.

Shrimad Bhagwat Geeta and Inner Peace- Shrimad Bhagwat Geeta mentions in various shlokas about ways of attaining inner

peace. Here, the physical battle is only an occasion for describing the battlefield of the human body; the names mentioned are not of persons but of the qualities that they represent. What is described is the conflict within the human body, between opposing moral tendencies imagined as distinct figures. A seer such as Vyas would never concern himself with a description of mere physical fighting. It is the human body that is described as Krukshetra, as dharmakshetra.

The quest for food, security and meaning propels the living into action. Every action has reactions. Reactions create circumstances that Human beings constantly experience. Can Human beings control our circumstances, create fortune and avoid misfortune, by regulating our action and the actions of others? Or can Human beings simply withdraw from activity, turn away from all sensory seductions, save ourselves from disappointment and heartbreak, and thus find peace? (Patnaik, 2015).

Bhagwat Geeta explains the answers of all these questions in different chapters in different forms. Some of them are given below.

'When a man puts away, O Partha, all the cravings that arise in the mind, and finds comfort for himself only from the atman, then is he called the man of secure understanding.' Chapter II - 55

There is not a single thing in the world that Human beings can go on desiring perpetually; because of this, Human beings have the problem of happiness and misery. The more Human beings desire a thing, the stronger grows our desire. The more Human beings satisfy our desires, the more urgent do they become.

Who can succeed in banishing desires in this manner? He whose self abides content in itself is known as a Sthitaprajna.

The man who lives content in the self, through the self will give up all desires, but one can live in such a state only if the desire to become better, to grow spiritually awakens in one.

'He whose mind is untroubled in sorrows and who longeth not for joys, who is free from passion, fear and wrath – he is called the ascetic of secure understanding.' ch II-56

The man who does not feel depressed by suffering, who, knowing that suffering is always the effect of some cause, is not overcome by suffering, who is indifferent to pleasures, who is no longer subject to attachments, fear, anger – such a person may be described as *Sthitadhi*, that is, one whose intellect remains steadfast and is never caught in whirlpool-

'*He who owns attachment nowhere, he who feels neither joy nor resentment whether good or bad comes his way – that man's understanding is secure.' – ch II 57*

The man who has withdrawn interest from all objects, given up desires for them, who is unconcerned, indifferent to good or bad chance, one who neither pleased nor annoyed by anything, such a person's intellect is steadfast. Shri Krishna gives an illustration for this-

'*And when like the tortoise drawing in its limbs from every side, this man draws in his senses from their objects, his understanding is secure.' Ch II 58*

The man who holds back his senses as the tortoise draws in its limbs, to prevent them from going out to their objects, and holds them as if under a shield, has an intellect which is steadfast. Only that man who voluntarily holds back his senses might be known as completely absorbed in supreme power. When our senses seem to move out of our control Human beings should think of the tortoise. The objects of the senses are like pebbles. If Human beings hold back the senses, the pebbles will not hurt, that is, as long as Human beings keep under control our hands, our feet, and our eyes.

The Method 0f Self Control- The author of Gita has explained how the senses may be held back from their objects: '*When a man starves his senses, the objects of those senses disappear from him, but not the yearning for them; the yearning too, will depart when he beholds the supreme' Ch II 59*

Only a person who denies the body the food for which it craves will cease to be troubled by his senses. The senses of a well fed man always keep awake, but they lose all their power when he stops eating. If a man's appetites are not under his control, it would be best for him to fast. The second half of the verse:

The appetites subside, but our sense of pleasure in the

objects of senses remains. If a person who is fasting feels that his life is secure, he will not suffer because of the fast, but ordinarily, the desire for food would persist. During a fast impure desires will probably subside, but one gets impatient for the fast to end. Unless the desire for food gets disappeared completely, that fast will not endure. The desire for sacrifice will not endure without renunciation. When Human beings have an opportunity to enjoy something, Human beings find that our physical appetites become stronger again. This, of course, does not mean that Human beings should not occasionally give up things for a temporary period. Human beings should certainly give up anything Human beings can give up. Three things are essential for control of senses

- Faith
- A firm conviction that it is necessary to subjugate the senses, so strong that Human beings would persist even if Human beings Were all alone in this belief;
- Realization that food is body's nourishment, a means of keeping it alive, but it is also the cause of the senses becoming turbulent. Therefore, when it ceases to serve the purpose of nourishing the body, eating should cease.

One cannot indulge in pleasures and, at the same time, live a life of renunciation which is equivalent to peace. If Human beings understand the truth that Human beings must only to give the body its sustenance, then Human beings are fit to understand the Gita. *'Peace of mind means the end of all ills; for the understanding of his whose mind is at peace stands secure.'*87

When God's grace descends on us, bringing us peace, all our suffering will end. The intellect of a man whose chitta has become calm, stands secure, and is protected against error.

'The undisciplined man has neither understanding nor devotion; because, for him who has no devotion there is no peace, and for him who has no peace whence will there be happiness? 88

The man whose senses are under his control, and kept away from their objects, is a man established in Samadhi.

'He in whom all longings subside, even as the water subside in the ocean, which, though ever being filled by them,

never overflows-that man finds peace, not he who cherishes longing.'102

The sea, though being ever added to, remains confined within its bounds; it stands where it has always stood despite countless rivers emptying their water into it, similarly human beings can also remain peaceful in the presence of stressors.

Action vs. Inaction- Arjuna, even when you do nothing, you still act. By simply withdrawing from society, you do not get freedom. Everyone who is born, who is alive, who is dependent, acts, compelled to do so by nature itself. He who controls the senses but has a mind full of cravings is a pretender who fools himself. Do what you have to do, rather than not doing anything at all. You need to act if you want your body to function. -Bhagavat Geeta: chapter 3, verses 4 to 8 (paraphrased) (Patnaik, 2015).

From fear of death comes hunger, hence the quest for food, hence violence. Fear of death by violence makes animals sexual, so that they reproduce and ensure that at least some part of their being outlives death. And that which is reproduced carries with it the fear of death, hence hunger, violence and sex. Thus, cause is an action (karma) and the consequence is also an action (karma). Karma is both action and reaction. (Patnaik, 2015)-

Arjuna, fair or unfair, the results of any action depend on five things: the body, the mind, the instruments, the method and divine grace (luck? Fate?). Only the ignorant think they alone are responsible for any outcomes-BhagvatGeeta: chapter 18, verses 13 to 16 (paraphrased). (Patnaik, 2015).

Here the world is always changing and so the point is to observe it, rather than judge or control it. Arjuna, you have control over your action alone, not the fruits of your action. So do not be drawn to expectation, or inaction.-Bhagvat Geeta: chapter 2, verse 47 (paraphrased). Those who believe in karma do not blame. They do not judge. They accept that humans live in a sea of consequences, over which there is limited control. So they accept every moment as it is supposed to be. They act without expectation. This is nishkama karma. Arjuna, you can choose actions, not reactions. Do not choose action because of

the reactions. Do not choose inaction either. –BhagvatGeeta chapter 2, verse 27 (paraphrased).To act is karma but it becomes karma yoga when Human beings act without seeking control over the outcome.

Arjuna, better to do what you have been asked to do imperfectly than try to do perfectly what others have been asked to. All work has inadequacies; even fire is enveloped by smoke.-BhagvatGeeta chapter 18, verse 47 and 48 (paraphrased) (Patnaik, 2015)

Values- There are certain values that help to lead a healthy mental life. In the 13th chapter in BhagwatGeeta 9 values are described and these values will help an individual to achieve the state of sthitaprghnya or an inner peace. *Absence of conceit, absence of hypocrisy, harmlessness, accommodation, straightforwardness, reverence for the teacher, cleanliness, steadfastness, self discipline. Ch 13, VII* Amanitvam is the absence of *manitva*. The nature of *mani*is *manitva. Mana*means self praise. The *mani*is one who makes his virtues known to others and demands to be respected for them. Only someone who has a value for a given set of qualifications will acknowledge them – if he has no other problem.

Many of our problems are due to others not acknowledging our virtues. Wanting recognition is very common and there is some legitimacy to it. If you have some qualification, it is good for it to be recognized. The problem comes in demanding that recognition. Since others also want recognition and if one insists on always being the recipient of recognition, he is not in a position to recognize others properly and there is constant tension in his relationships. Any respect must be naturally forthcoming. If one demands it, that suggest an emotional problem.

One must be somebody is one's own eyes and then only one is mature. It is how one looks at one's self counts. He respects his body, he respects his mind, he respects his senses-and if it is one's self image then one has no need to show off one's accomplishments. This is not only a self respect but also a gratitude for something beautiful that what one is.

Adambhitva- In order to understand *adambhitva* one needs to

know what is *dambha* then see what it means for not to be there. *Dambha* is declaring one's own glories that one does not have. Unlike *manitva,* it is demanding to be respected without any qualification for it. This is done in small ways and big ways, making known to others one's own imagined glories in order to gain approval and recognition. With actions, with dress, with language presenting one's self as something more than what he is, is *dambhitva.*

Absence of *dambhitva*means having no pretensions. Any pretension also expresses a non-acceptance of one's self and if one does not accept one's self then even other accept him because one pretends to be, is not going to reach him.This problem also evolves only in the non acceptance.

Ahimsa- *Ahimsa* is not hurting the living beings. This begins with one's own being and extends to all living beings, even plants and trees. It is difficult to observe this value as it requires a great deal of understanding. *Ahimsa* is a very dynamic concept and has to be interpreted in from time to time and situation to situation; but the basic spirit is to be very clearly understood. Do not deliberately, for your own sake, hurt another being.

How does *Ahimsa* helps one to achieve an inner peace? One's mind must be sensitive enough to understand others' pains. No human heart is incapable of empathy but one shuts it out due to various reasons. When individual understands others' pains he puts aside through rationalizing and slowly a justification for *himsa* develops. *(super ego punishes in the form of guilt)Ahimsa* is an appreciation of other's pain that gives you a profound respect for life and allows you to let others living beings live as they Were meant to. It is not even that you allow them to live because that is something over, which you have any say. Nor is it a policy but something born of one's own understanding that every living being has an inherent right to live. You live and enjoy others living. *Ahimsa* makes an individual with a very high degree of sensitivity in whom the original emotions of love, sympathy etc are not clogged by some wrong thinking contingent upon one's priorities.

Ksanti- *Ksanti* means, remaining untouched when one is wronged by another. Whether verbally or by an action, which is

against *dharma*, when one is harmed in any manner, there is an impulse to retaliate. This reaction is called *vicriya* or reaction. It first occurs as a mental modification and then is expressed in the form of either an oral or a physical action. The absence of such a reaction is *ksanti*. How can anybody remain without a reaction when he has been wronged in his perception? When one's goal is to achieve inner peace such reactions are not appropriate at all. It does not mean that one should suppress his or her anger but look into how one can get past the reaction. This is possible only when one has an intimate understanding of the other person. What has prompted him to act this way? Each person acts or reacts in a given way because he cannot act differently. If he could, he certainly would have. Generally people tend to avoid people whose behavior they find difficult to handle. But this does not solve the problem of one's reaction. One has to look into one's self and see why is he not able to allow the person to be what he or she is. Reactions happen only because of intolerance or looking at it another way, internalization. When one feels hurt because of someone's action one internalizes that behavior as though one has some responsibility for it. The reality is that as an adult one is responsible only for one's own actions and emotions.

Arjva- Arjva comes from the word *rju*, which means straight. When there is an alignment of thought, word and deed, this is *arjava*. The action is in keeping with the word and the word with the thought. The alignment is only in this direction. One need not say or act upon every thought one has but his actions must be consistent with one's words and with one's thoughts. This alignment is a value because with it there is freedom from conflict. Whenever one says one thing and does another or thinks one thing and says another, there is a conflict within one's ownself, which can be called crookedness. *Arjva* is its opposite. One aspect of it, *Satya*, speaking truth is considered to be a great value.

Sauca, Internal and External- *Sauca* means cleanliness or purity internally or externally. External cleanliness begins with the external environment, one's dwelling place, physical body and clothes. Anything that is being used becomes dirty. Since the

mind is also being used constantly it is also subject to *Asuca*. But while it is a simple matter to keep the body, environment etc clean with varieties of agents, how can one achieve inner peace?

Inner dirt is anything that is not liked by the self and others such as greed, anger, selfishness, hatefulness and so on. The mind that is exposed to various experiences naturally gathers some of these things. How can one clean this inner dirt?

Through *pratipaksa-bhavana-* One way of removing jealousy, hatred and various other painful emotions is to bring in their opposite. Suppose one feels hatred towards someone and wants to be free from that; then one can deliberately cultivate liking for him. In different degrees everyone has critical thoughts about one's self. One can manage that by deliberately finding the features in one 's self which are definitely appreciable. One should learn how to be kind to one's self.

External *Sauca-* External cleanliness is something over which one has a better control and is important as the beginning point of cleanliness. Once the environment is in order, it brings about a certain order in mind. So one should keep the physical environment clean, including one's body, to provide conducive conditions to bring about inner *Sauca,* cleanliness of the antahkaran.

Sthairya- It would be commitment to one's own duties. However, difficult it is, one does the thing that is proper. Here it is done not to fulfill but to neutralize *raga-dvesa.*

Atmavinigraha- *Atmavinigraha*is control over the body-mind-sense complex so that, it is helpful to you. Suppose one wants the body to get up in the morning for study and it refuses. Then one needs to train the body-mind-sense complex to behave in a way that is useful to one's self, so that, one does what is to be done for achieving the state of *Sthitpraghnya.* It implies withdrawal from other pursuit then the inner peace.

Anhankar- The *Ahankara*is a state of 'I', 'me' and 'mine'. The absence of these notions is only possible in the wake of knowledge. Anhankar is absence of pride. What makes a person proud? One may have physical beauty or accomplishment, or a good mind or some possessions. Presenting oneself in the reflection of their glory is pride. What has one accomplished is

nothing. When one understands this, there is no pride (Bhagwat Gita Home Study Course, volume 3, by Swami Dayandaji) The importance of human values is also given by DevduttPatnaik in his book My Gita by paraphrasing it. Arjuna, no one is hurt when you walk this path of humanity; no one is killed; even a little effort helps you fear less.- BhagavatGeeta chapter 2, verse 40 (paraphrased).

Dharma is more about empathy than ethics, about intent rather than outcome. I follow dharma when I am concerned about your material, emotional or intellectual hunger. I follow adharma when I focus on my hunger at the cost of yours.

Empathy enables exchange. I can satisfy a hunger of yours and you can satisfy a hunger of mine. This refers not just to the physical hunger, but psychological hunger as Well. This act of mutual feeding informs the yagna, the ancient Vedic ritual, which establishes the human ecosystem of mutuality, reciprocity, obligations and expectations.

Arjuna, all actions other than yagna entraps us. Yagna alone liberates us. - Bhagvat Geeta chapter 3, Verse 9 (paraphrased).

Human hunger is not just about food. Human beings seek emotional and intellectual nourishment too. Human beings seek meaning, validation, significance, value, purpose, power and understanding. Human beings seek entertainment. Human beings seek food to liberate us from the fear of the predator, security to liberate us from the fear of the prey and meaning to liberate us from the fear of invalidation. This transforms every meeting into an exchange. Child-rearing is yagna. Feeding is yagna. Teaching is yagna. Service is yagna. Taking care of environment around you is yagna. Exchange can be used to satisfy our desires, or repay our debts. It can entrap us, or liberate us. It depends not on the action, but on the thought underlying the action.

To do yagna is to recognize that Human beings live in a sea of assumed expectations and obligations. You and I can hoard, grab, give in order to get, get before giving or simply withdraw from the exchange. Human beings can act out of desire, duty or care. Human beings can choose to expect or

control outcome, or not. (My Gita, devduttpatnaik, chapter 7)

Yoga- What stops us from empathizing and exchanging? What makes us want to control the other, or simply withdraw, find peace in the isolation of the cave? The process of discovering the source of disconnection is called yoga, though the word yoga itself means 'to connect'. Arjuna, practice yoga with conviction and without dismay, for it will connect you with that from which you are disconnected, and unhook you from your sorrow. – BhagvatGeeta chapter 6, verse 23 (paraphrased).

Nature is full of discrete units: planets, stars, rocks, rivers, plants, animals and humans. These units are naturally drawn together or pulled apart by certain forces of attraction or repulsion. In the physical world, these forces have been observed at inter-planetary as well as sub-atomic levels. In biological world, they manifest as animals seeking opportunity, such as food, and shunning threats, such as rivals and predators. This attraction (raga) and repulsion (dvesha) is part of life. Yoga enables us to be aware of these natural forces of attraction and repulsion and not be swept away by them. The Geeta reveals a familiarity with all the practices referred to in the yoga-sutra. Krishna speaks of using the breath to make the journey from the outside to the inside.

Arjuna, ignore the onslaught of external stimuli and focus between your eyebrows, regulating inhalation and exhalation at the nostrils, to liberate yourself from fear, desire and anger, and discover me within you, I who receive and consume every offering of your yagnas. – BhagvatGeeta, chapter 5, verses 27 to 29 (paraphrased).

There is reference to meditation in The Geeta: sitting still and calming the mind until one's breath is natural and rhythmic. Arjuna, sit still on a mat that is neither too high nor too low. Your head, neck and back aligned, still your senses, focus your mind, gazing at the nose-tip. – BhagvatGeeta chapter 6, verses 11 to 13 (paraphrased)**.** The point is to make one's way through the turbulence of the mind and discover the tranquility beyond. Arjuna, use your mind to ignore sensory stimuli, outgrow that desire, disconnect from intelligent arguments and ideas, rein in the restless fickle wandering emotions, expand

your mind and discover the tranquility within. –BhagvatGeeta chapter 6, verses 24 to 27 (paraphrased) and having once realized the fear within, the yogi is able to see the fear without, in others around, in individuals as well as in the collective, for he is connected. A yogi looks within to appreciate the mind that occupies the body, the thoughts that occupy the mind, the fears that occupy the thoughts, the opportunities and threats that occupy the fears and the fears of others that occupy those opportunities and those threats.

Arjuna, yoga will enable you to perform action without expectation, and look upon success and failure equally. Action focused on intent is better than action focused on outcome. Such action liberates you from all dualities, so improve your skills with yoga. – BhagvatGeeta chapter 2, verses 48 to 50. (Paraphrased).

Arjuna, to expand your mind, use intelligence to draw your mind away from sensuality, so that there is no self-obsession, aggression, arrogance, desire, anger, possessiveness, attraction or repulsion. You are content in solitude, consuming little, expressing little, connected with the world and aware. –BhagvatGeeta chapter 18, verses 51 to 53 (paraphrased).

Arjuna, he who is at peace with himself, happy with himself, illuminated by the knowledge of the resident within all beings, finds supreme bliss everywhere. He does not see himself as separate and disconnected and finds happiness in the happiness of all creatures. This state of being exists everywhere for the wise one who has outgrown desire and rage. – BhagvatGeeta chapter 5, verses 24 to 26 (paraphrased).

Conclusion- The primary/fundamental error is ignorance. The problem is misconception of the self. To identify the self as body mind sense complex is misconceptions of the self. It is because of the ignorance of real self. This false self that is the body mind complex is unacceptable to one's self 'the ego'. Ego thinks itself to be incomplete and wants to be complete and hence attempts to complete oneself with various things, relations. Even after such efforts one doesn't attain that completeness and it creates stress and anxiety within the individual.

Desires are an outcome of sense of incompleteness,

sense of lack and efforts to complete oneself by fulfilling various desires. But no matter how much ever they acquire; they always remain incomplete. As the finite objects etc can't make one infinite or give infinite pleasure or peace forever.

The solution is to know the real self. That is there is no gap between real self and ideal self.

Infinite self is the reality. Due to ignorance the ego only feels and thinks himself to be complete so unless he finds his real nature, it will never be completely free from stress and anxiety.

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Environmental issues in India

•**Dr. Akhilesh Shukla**

There are many environmental issues in India. Air pollution, water pollution, garbage, domestically prohibited goods and pollution of the natural environment are all challenges for India. Nature is also causing some drastic effects on India. The situation was worse between 1947 through 1995. According to data collected and environmental assessments studied by World Bank experts, between 1995 through 2010, India has made some of the fastest progress in addressing its environmental issues and improving its environmental quality in the world. Still, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies. Pollution remains a major challenge and opportunity for India.

The last two decades have seen a rampant rise in environmental challenges being faced by cities and countries globally. In India, too, challenges related to air pollution, waste management, scarcity of water, conservation of natural resources, and loss of biodiversity, amongst others have been increasing.

Environmental modification is as old as the history of human development. In the last century, development and modification have come much faster then ever before. While it took a few thousand years for man to pass from Paleolithic to Neolithic tools, it has taken less than a century to modify conventional weaponry to nuclear devices. Development has been so rapid that nature has not had time to adapt to these changes and to human requirement and greed.The last century has seen an unmanageable increase in population, placing a tremendous burden on natural resources. There is not enough food for the world's hungry. Also, the earth itself is worn out due

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to excessive farming, use of chemicals and pesticides and excessive use of ground water. Water resources are badly polluted and emission of toxic fumes from industry and vehicles has deprived us of clean air. Industrialization and a growing consumer economy have led to the creation of huge megapolises with their problems of undisposed garbage and uncontrolled sewage. To combat these problems, world bodies like the United Nations and the World Commission on Environment and Development have been formulating ideas for environmental protection and sustainable development. Several international conferences have been held on this subject, starting with the first one in Tbilisi in 1977 to the Earth Summit in Rio de Janeiro, the Population Summit at Copenhagen, the world Summit on Sustainable Development in Johannesburg and several others. It is clearly evident that 25 years after the first conference in Tbilisi, there has not been an appreciable change in lifestyles or the level of vironmental protection and the future of coming generations. awareness. Countries have put their own interests ahead of en

What has been India's stand on environmental protection? How far has our governing body succeeded in their avowed aims of cleaning up the environment? Various acts have been passed down the years, too innumerable to be put down here. The Ministry of Environment and Forests laid down its objectives.

Conservation & survey of flora, fauna, forests and wildlife- The wildlife of India is a mix of species of diverse origins. The region's rich and diverse wildlife is preserved in numerous national parks and wildlife sanctuaries across the country. Since India is home to a number of rare and threatened animal species, wildlife management in the country is essential to preserve these species. According to one study, India along with 17 mega diverse countries is home to about 60-70% of the world's biodiversity. The Ministry of Environment & Forests is responsible for the planning, promotion, co-ordination and overseeing the implementation of environmental and forestry programmes. The conservation of India's natural resources including lakes and rivers, biodiversity, survey of flora, fauna,

forests and wildlife, ensuring the welfare of its animals, prevention and control of pollution, afforestation and regeneration of degraded areas, protection of environment are the primary concerns for the govt. of India.Some of the policies run by the govt. of India in saving the environment and forests include National Conservation Strategy and Policy Statement on Environment and Development, 1992, National River Policy-1988, a Policy Statement on Abatement of Pollution-1992, and National Environment Policy-2006.The environmental legislation by the govt. of India includes the Public Liability Insurance Act, the National Environment Appellate Authority Act and the National Environment Tribunal Act.The Forest policy of the govt. aims at environmental stability through preservation and restoration of ecological balance, conserving natural heritage, check on soil erosion and extension of sand dunes, afforestation, efficient utilization of forest products and most importantly involving rural people in the campaign. Forest schemes run by the govt. includes Integrated Forest Protection Scheme (IFPS).The conservation of wildlife is being covered under the National Wildlife Action Plan (NWAP). Project Tiger renamed to National Tiger Conservation Authority is one of the popular schemes launched in 1973 for the conservation of tigers and now there are 28 tiger reserves in India after the successful implementation of the project. Project Elephant launched in 1992 provides for the provisions for the financial, technical and scientific assistance to different states for the survival of wild elephants.The Animal Welfare Division under the Ministry of Environment and Forests takes adequate care to prevent the suffering of animals. It effectively implements the various provisions of prevention of Cruelty to Animals Act.

Through the years, the ministry has passed innumerable laws to help them in their task of environmental protection. Sadly, all the regulations and acts have not done enough to protect the environment. The greed of many in the governing bodies has led to misuse of the laws and ruthless exploitation of the land, leading to ecological destruction and social injustices. Most leaders of industry, too, have been lacking in a social

conscience. They have exploited our country's resources and polluted our earth, water and air. Public apathy has not helped either. We, as citizens of this country have not made our voices heard. The opening up of our economy and globalization have put a greater pressure on our resources, further vitiating our fragile eco-system.

A recent trend which is heartening to note is the role of the Indian Judiciary in environmental protection, which has adopted public interest litigation (PIL) for the cause of environmental protection. This has proved an effective tool. For example, an attempt to acquire forest land and change the course of the River Beas to facilitate the construction of a motel was made by a company reportedly having direct links with the family of a former Minister of Environment and Forests. The Supreme Court quashed the prior approval granted by the central government for leasing out forest land and also the lease deed between the government of Himachal Pradesh and the company. The Government of Himachal Pradesh was asked to ensure that the space was restored and that there was no construction on that area. The culprit company was strictly directed to end and remove all construction and had to pay for the restoration of the area's ecology. It was also clarified that the river and surrounding region was and would remain public property.

This is a very small step when what is needed are giant strides in an eco friendly direction. The crying need of the hour is to educate the public and make them aware of their rights as citizens of this country to a clean environment, to clean water, clean air and clean surroundings. They must act together to fight corruption in governance and ruthless exploitation by the captains of industry. A strategy for environmental protection could be adopted:

- Reduce fertility rates and control population, reducing pressure on natural resources;
- Phase out non-renewable inputs – in energy, agriculture and industry
- Educate and inform the people about the gains of environmental protection and sustainable development. They must stand up for their rights.

There is still hope for us. We can, to a certain degree, reverse the process of degradation of our surroundings, for Mother Earth is forgiving and able to heal her wounds if we do not inflict more grievous ones on her. As Paul Bigelow Sears said, "How far must suffering and misery go before we see that even in the day of vast cities and powerful machines, the good earth is our mother and that if we destroy her, we destroy ourselves." So we should act today for a better tomorrow for our children.

The rapid growing population and economic development is leading to a number of environmental issues in India because of the uncontrolled growth of urbanization and industrialization, expansion and massive intensification of agriculture, and the destruction of forests.

Major environmental issues are forest and agricultural land degradation, resource depletion (water, mineral, forest, sand, rocks etc.), environmental degradation, public health, loss of biodiversity, loss of resilience in ecosystems, livelihood security for the poor. It is estimated that the country's population will increase to about 1.26 billion by the year 2016. The projected population indicates that India will be the first most populous country in the world and China will be ranking second in the year 2050. India having 18% of the world's population on 2.4% of world's total area has greatly increased the pressure on its natural resources. Water shortages, soil exhaustion and erosion, deforestation, air and water pollution afflicts many areas. India's water supply and sanitation issues are related to many environmental issues.

One of the primary causes of environmental degradation in a country could be attributed to rapid growth of population, which adversely affects the natural resources and environment. The uprising population and the environmental deterioration face the challenge of sustainable development. The existence or the absence of favorable natural resources can facilitate or retard the process of socio-economic development. The three basic demographic factors of births (natality),deaths (mortality) and human migration (migration) and immigration (population moving into a country produces higher population) produce

changes in population size, composition, distribution and these changes raise a number of important questions of cause and effect. Population growth and economic development are contributing to many serious environmental calamities in India. These include heavy pressure on land,land degradation, forests, habitat destruction and loss of biodiversity. Changing consumption pattern has led to rising demand for energy. The final outcomes of this are air pollution, global warming, climate change, water scarcity and water pollution.

Environmental issues in India include various natural hazards, particularly cyclones and annual monsoon floods, population growth, increasing individual consumption, industrialization, infrastructural development, poor agricultural practices, and resource maldistribution have led to substantial human transformation of India's natural environment. An estimated 60% of cultivated land suffers from soil erosion, waterlogging, and salinity. It is also estimated that between 4.7 and 12 billion tons of topsoil are lost annually from soil erosion. From 1947 to 2002, average annual per capita water availability declined by almost 70% to 1,822 cubic meters, and overexploitation of groundwater is problematic in the states of Haryana, Punjab, and Uttar Pradesh. Forest area covers 18.34% of India's geographic area (637000 km²). Nearly half of the country's forest cover is found in the state of Madhya Pradesh (20.7%) and the seven states of the northeast (25.7%); the latter is experiencing net forest loss. Forest cover is declining because of harvesting for fuel wood and the expansion of agricultural land. These trends, combined with increasing industrial and motor vehicle pollution output, have led to atmospheric temperature increases, shifting precipitation patterns, and declining intervals of drought recurrence in many areas.

The Indian Agricultural Research Institute of Parvati has estimated that a 3 °C rise in temperature will result in a 15 to 20% loss in annual wheat yields. These are substantial problems for a nation with such a large population depending on the productivity of primary resources and whose economic growth relies heavily on industrial growth. Civil conflicts involving natural resources most notably forests and arable land have

occurred in eastern and northeastern states.

Pollution: Water pollution- Out of India's 3,119 towns and cities, just 209 have partial treatment facilities, and only 8 have full wastewater treatment facilities (WHO 1992). 114 cities dump untreated sewage and partially cremated bodies directly into the Ganges River.Downstream, the untreated water is used for drinking, bathing, and washing. This situation is typical of many rivers in India as well as other developing countries. Open defecation is widespread even in urban areas of India. Water resources have not therefore been linked to either domestic or international violent conflict as was previously anticipated by some observers. Possible exceptions include some communal violence related to distribution of water from the Kaveri River and political tensions surrounding actual and potential population displacements by dam projects, particularly on the Narmada River. Punjab is today another hotbed of pollution, for example, Buddha Nullah, a rivulet which run through Malwa region of Punjab, India, and after passing through highly populated Ludhiana district, before draining into Sutlej River, a tributary of the Indus river, is today an important case point in the recent studies, which suggest this as another Bhopal in making. A joint study by PGIMER and Punjab Pollution Control Board in 2008, revealed that in villages along the Nullah, calcium, magnesium, fluoride, mercury, beta-endosulphan and heptachlor pesticide were more than permissible limit (MPL) in ground and tap waters. Plus the water had high concentration of COD and BOD (chemical and biochemical oxygen demand), ammonia, phosphate, chloride, chromium, arsenic and chlorpyrifos pesticide. The ground water also contains nickel and selenium, while the tap water has high concentration of lead, nickel and cadmium. The Mithi River, which flows through the city of Mumbai, is heavily polluted.

The Ganges- Millions depend on the polluted Ganges river. The Economist on December 11, 2008 says in article: Pollution of the Ganges, "To know why 1,000 Indian children die of diarrhoeal sickness every day, take a wary stroll along the Ganges in Varanasi. As it enters the city, Hinduism's sacred river

contains 60,000 faecal coliform bacteria per 100 millilitres, 120 times more than is considered safe for bathing. Four miles downstream, with inputs from 24 gushing sewers and 60,000 pilgrim-bathers, the concentration is 3,000 times over the safety limit. In places, the Ganges becomes black and septic. Corpses, of semi-cremated adults or enshrouded babies, drift slowly by." More than 400 million people live along the Ganges River. An estimated 2,000,000 persons ritually bathe daily in the river, which is considered holy by Hindus. In the Hindu religion it is said to flow from the lotus feet of Vishnu (for Vaisnava devotees) or the hair of Shiva (for Saivites). The spiritual and religious significance could be compared to what the Nile river meant to the ancient Egyptians. While the Ganges may be considered holy, there are some problems associated with the ecology. It is filled with chemical wastes, sewage and even the remains of human and animal corpses which carry major health risks by either direct bathing in the water (e.g.: Bilharziasis infection), or by drinking (the Fecal-oral route).

About The Yamuna NewsWeek describes Delhi's sacred Yamuna River as "a putrid ribbon of black sludge" where fecal bacteria is 10,000 over safety limits despite a 15-year program to address the problem. Cholera epidemics are not unknown. There are various effects of water pollution.

Spread of disease- Drinking polluted water can cause cholera or typhoid infections, along with diarrhea. Affects body organs: The consumption of highly contaminated water can cause injury to the heart and kidneys. Harms the food chain: Toxins within water can harm aquatic organisms, thus breaking a link in the food chain.

Causes algae in water- Urea, animal manure and vegetable peelings are food for algae. Algae grow according to how much waste is in a water source. Bacteria feed off the algae, decreasing the amount of oxygen in the water. The decreased oxygen causes harm to other organisms living in the water.

Flooding- The erosion of soil into waterways causes flooding, especially with heavy rainfall.

Harms animals- Birds that get into oil-contaminated water die from exposure to cold water and air due to feather damage.

Other animals are affected when they eat dead fish in contaminated streams.

The effects of water pollution are not always immediate. They are not always seen at the point of contamination. They are sometimes never known by the person responsible for the pollution. However, water pollution has a huge impact on our lives. With knowledge, consideration and preparation, water pollution can be decreased. It doesn't take much effort just a little thought.

It is estimated by the Central Pollution Control Board that 75% to 80% of water pollution by volume is caused by domestic sewage. The major industries causing water pollution include: distilleries, sugar, textile, electroplating, pesticides, pharmaceuticals, pulp & paper mills, tanneries, dyes and dye intermediates, petro-chemicals, steel plants etc. Non-point sources such as fertilizer and pesticide run-offs in rural areas also cause pollution. Only 60% of chemical fertilizers are utilized in soils and the balance is leached into soil polluting the ground water. Excess phosphate run-off leads to eutrophication in lakes and water bodies.

Water Pollution Solutions- The best solution for water pollution is prevention. While pollution that has already occurred is a current threat to all life on Earth, attempts to clean it up may cause even more harm. Chemicals used to treat or clean up oil spills may further contaminate water supplies. Adjustments in temperature to counteract heat or cooling pollution may not achieve proper balance, leading to more loss of aquatic life. Preventing water pollution does more for the environment by halting the level of pollutants where they are. This gives the environment needed time to begin to correct itself, and time for scientists to determine the best way to combat existing problems.

Air pollution- Air pollution is high in Indian cities. Indian cities are polluted by vehicles and industry emissions. Road dust due to vehicles also contributing up to 33% of air pollution In cities like Bangalore, around 50% of children suffer from asthma.[13] India has emission standard of Bharat Stage II (Euro II) for vehicles since 2005. One of the biggest causes of air

pollution in India is from the transport system. Hundreds of millions of old diesel engines continuously burning away diesel which has anything between 150 to 190 times[16] the amount of sulphur out European diesel has. Of course the biggest problems are in the big cities where there are huge concentrations of these vehicles. On the positive side, the government appears to have noticed this massive problem and the associated health risks for its people and is slowly but surely taking steps. The first of which was in 2001 when it ruled that its entire public transport system, excluding the trains, be converted from diesel to compressed gas (CPG). Electric rickshaws are being designed and will be subsidised by the government but the supposed ban on the cycle rikshaws in Delhi will require a huge increase on the reliance of other methods of transport, mainly those with engines. It also appeared that the excessive pollution was having an adverse effect on the Taj Mahal. After a court ruling all transport in the area was shut down shortly followed by the closure of all industrial factories in the area. The air pollution in the big cities is rising to such an extent that it is now 2.3 higher than the amount recommended by WHO (world health organization). (Pollution through Cremation by Savita Sethi published by Paryavaran Sanrakshan Nyas 2005)

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Noise pollution- The Supreme Court of India gave a significant verdict on noise pollution in 2005. Unnecessary honking of vehicles makes for a high decibel level of noise in cities. The use of loudspeakers for political purposes and by temples and mosques make for noise pollution in residential areas. Recently Government of India has set up norms of permissible noise levels in urban and rural areas. How they will be monitored and implemented is still not sure. Ambient standards in respect of noise for different categories of areas (residential, commercial, industrial) and silence zones have been notified under the Environment (Protection) Act, 1986. Noise limits have been prescribed for automobiles, domestic appliances and construction equipment at the manufacturing stage. Standards have been evolved and notified for the gen sets, fire crackers and coal mines. Regulatory agencies have been directed to enforce the standards for control and regulate noise pollution. The following steps are taken to control vehicular pollution-

- Establishment of Ambient Air Quality Monitoring throughout India
- Notification of Ambient Air Quality Standards under Environment (Protection) Act.
- Notification of vehicular emission norms for year 1990-91,1996, 1998, 2000, 2001
- Improving fuel quality by phasing out lead from gasoline, reducing diesel sulphur, reducing gasoline

benzene, and etc.

- Introduction of alternate fuelled vehicles like CNG/LPG.
- Improvement of public transport system.
- Phasing out of grossly polluting commercial vehicles.
- Public awareness & campaigns.

The Govt. of India has enacted noise standards for fire-crackers vide G.S.R.682(E), dated 5th October, 1999, in an effort to control noise pollution due to fire crackers Recently in March 2001, Central Pollution Control Board in association with National Physical Laboratory (NPL), Delhi initiated a study on measurement of noise levels of fire-crackers available in the market. The study indicates that 95% of the fire-crackers samples exceed the prescribed noise limits. Consequently, CPCB issued notice under Section 5, of the Environment (Protection) Act, 1986 to the Department of Explosives, Nagpur, to take immediate steps to control manufacturing of fire-crackers exceeding the prescribed limits. All the State Pollution Control Boards/Committees were also requested to initiate steps to control sale of fire-crackers exceeding the notified limits, in consultation with their respective local administrations.

The Govt. of India has enacted Noise Pollution (Regulation and Control) Rules, 2000 vide S.O.123(E), dated 14th February, 2000. The Rule deals with provisions to control noise pollution due to loud-speakers and public address system, as given below-

- Restriction on the use of loud speakers/utility address system :A loud speaker or a public address system shall not be used except after obtaining written permission from the authority.
- A loud speaker or a public address system shall not be used at night (between 10.00 p.m. to 6.00 p.m.) except in closed premises for communication within e.g. auditoria, conference rooms, community halls and banquet halls.
- The Central Pollution Control Board, in association with the Indian Institute of Science, Bangalore, had developed systems for control of noise pollution from

diesel generator sets as well as from petrol/kerosene generator sets. Based on this, the noise standards for diesel and petrol/kerosene generator sets have been developed and notified

- What steps have been taken to control noise pollution in the country? Back
- Ambient noise standards were notified in 1989, which formed the basis for State Pollution Control Boards to initiate action against violating sources.
- The vehicular noise standards, notified in 1990, are being implemented by Ministry of Science and Technology, to reduce traffic noise. These standards have been made more stringent vide a notification in September 2000 and will be effective from January, 2003.
- Noise standards for diesel genset were prescribed in Dec. 1998. Govt. has been pursuing with State Pollution Control Boards, generator manufacturing and major users, for implementation of these standards. Presently these standards are being revised (the Mo EF is in the process of issuing notification) making it mandatory for all generator manufacturers to provide acoustic enclosure at the manufacturing stage itself. This will have a major impact on noise from DG sets.
- Noise standards for fire-crackers were developed in October, 1999. Central Pollution Control Board had carried out a compliance testing of the fire crackers available in the market and also taken up with the Department of Explosives for compliance with these standards.
- Noise standards for petrol and kerosene generator sets were notified in September, 2000, and will be effective from September, 2002. The sale of these gensets will be prohibited if not certified by the testing agencies, identified for the purpose.

- The Noise Rules, 2000, regulates noise due to Public Address System/ Loud speakers and also prescribed procedures for noise complaint handling.
- Central Pollution Control Board has taken up a study on aircraft noise monitoring in Indira Gandhi International Airport, Delhi. This will be followed by development of guidelines/ standards for aircraft noise.

Land pollution- Land pollution in India is due to pesticides and fertilizers as well as corrosion In March 2009, the issue of Uranium poisoning in Punjab came into light, caused by fly ash ponds of thermal power stations, which reportedly lead to severe birth defects in children in the Faridkot and Bhatinda districts of Punjab. The Central Pollution Control Board in consultation with State Pollution Control Boards has identified 24 areas in the country as critically polluted areas. These are: Bhadravati (Karnataka), Chembur (Maharashtra), Digboi (Assam), Govindgarh (Punjab), Greater Cochin (Kerala), Kala-Amb (Himachal Pradesh), Parwanoo (Himachal Pradesh), Korba (Madhya Pradesh), Manali (Tamil Nadu), North Arcot (Tamil Nadu), Pali (Rajasthan), Talcher (Orissa), Vapi (Gujarat), Visakhapatnam (Andhra Pradesh), Dhanbad (Bihar), Durgapur (West Bengal), Howrah (West Bengal), Jodhpur (Rajasthan), Nagda- Ratlam (Madhya Pradesh), Najafgarh Drain (Delhi), Patancheru Bollaram (Andhra Pradesh), Singrauli (Uttar Pradesh), Ankleshwar (Gujarat), Tarapur (Maharashtra)

Conservation- In recent decades, human encroachment has posed a threat to India's wildlife; in response, the system of national parks and protected areas, first established in 1935, was substantially expanded. In 1972, India enacted the Wildlife Protection Act and Project Tiger to safeguard crucial habitat; further federal protections were promulgated in the 1980s. Along with over 500 wildlife sanctuaries, India now hosts 14 biosphere reserves, four of which are part of the World Network of Biosphere Reserves; 25 wetlands are registered under the Ramsar Convention.

- The total number of NGOs in the country is about 70,000; (Nagraj) while the actual

- number might be in lakh, the number of the registered NGOs may not be more than 10,000.
- Commercialisation of NGOs has no doubt led to their rapid growth but it does not mean that
- every one joining the field is coming because of money only. A high official with CAPART says that there are more number of good NGO's than the
- bad NGOs but "unfortunately it is only the bad ones who get projected."
- A code of conduct should be evolved to evaluate and rate the NGOs and the initiative should
- come from within the NGO sector.
- The Insurance Regulatory and Development Authority (IRDA) is working on evolving a
- regulatory frame work to allow NGOs to sell micro insurance products particularly to tap
- insurance potential in the rural areas. Since NGOs are performing well the insurance sector also
- will be soon open to NGOs. These NGOs can capture the rural market easily.

Meausers for the Protection of Environment

Water saving- About 70% surface of the earth' is covered by water, of which 96.5% part is sea water. The rest is fresh water though, half of them is in the form of ice. The actual utilized water, such as rivers and lakes, accounts for only 0.003% of total water amount on he earth. Thus, we need to make good use of water; wasting water is a kind of guilt to human being.

Limit use on detergents- Most detergents are chemical products, which can cause water quality deterioration if they are discharge to rivers. Long-term improper use of cleaners will damage people's nerve systems, suffocate intelligence development, or even cause mental disorder. If cleansers are left on clothes, they may cause skin irritation.carcinogenic substance in high concentration cleaners may intrude into human bodies from mouths and skin. Limit use of detergents or cleansers will reduce the risks of water pollution.

Limit use on electrical appliances- A great deal of coal, gas and fuel are applied in industries, commerce, housing and transportation. These materials will create excessive amount of carbon dioxide, which, just like a layer of glass, can block heat diffuse to outer space, so thel heat will stay in atmosphere and formed a "greenhouse effect". The "greenhouse effect" tends to make a change on global weather, resulted in devastating droughts and floods and melting polar which cause rising sea levels. It's estimated that many altitude regions, such as Bangladesh, Netherlands, Egypt, etc, are likely to submerged into the sea. If we can have a limit use on electrical appliances at home, less power would be consumed up and the tragedies may not happen.

People's Participation- If all people take joint efforts on environmental protection, it will bring benefits to many generations. First, accept that you are only able to control your actions and responses to changing conditions around you. Take responsibility for your actions in all things. It sounds simple but being accountable to yourself will help you make the necessary changes. Stop to consider the consequences of your actions (if I choose to do this, what will be the result?). Lead by example! If you can change, then it just might inspire others. Remember that one person can make a difference. Small accomplishments add up quicker then you might think. Remember, no matter what your economic standing, you can help save the environment and money at the same time. You the consumer drive the market; products are made because you buy them. If you buy products that are better for the environment it will become profitable for companies to respond to the demand for environmentally-friendly products. It really is that simple.

India has prepared pollution abatement strategy which include the legal framework and the Environment Authorities. In addition to Pollution Control Boards, 6 Environmental Authorities have been constituted under the Environment (Protection) Act 1986, including the National Environment Appellate Authority. These are :The Central Ground Water Authority - Aqua Culture Authority Dahanu Taluka Environment (Protection) Authority Environment Pollution

(Prevention & Control) Authority for National Capital Region of Delhi Loss of Ecology (Prevention and Payment of Compensation) Authority for State of Tamil Nadu. National Environment Appellate Authority,1997. The Central and State Pollution Control Boards were set up for enforcement of the Water (Prevention & Control of Pollution) Act, 1974. Over the years, the Boards have been assigned additional responsibilities which include the following-

- Water (Prevention & Control of Pollution) Cess Act, 1977.
- Air (Prevention & Control of Pollution) Act, 1981
- Environment (Protection) Act, 1986 and Rules made thereunder
- Hazardous Waste (Management & Handling) Rules1989.
- Manufacture, storage and Import of Hazardous Chemicals Rules, 1989
- Bio-medical Waste (Management & Handling) Rules, 1998
- Municipal Solid Waste (Management & Handling) Rules, 2000.
- Plastics wastes Rules, 1999 o Coastal Regulation Zone Rules, 1991
- Public Liability Insurance Act, 1991

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Present and Future of Environment Friendly Renewable Energy Statistics: Global and Indian Perspective

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••• **Dr. Kamlesh Kumar**

Traditional Energy source and fuels which is fossil fuel fulfilled most of our energy requirement. The way global consumption is going on and known fossil fuel resource exist, the fossil fuel will last hardly 46 years (BP, 2010). However, the world is not going to be out of fossil fuel shortly and it is also not environment friendly. On the other hand, its extraction shall be not economically viable.

Apart from above Climate change is now recognized as one of the main threats to humanity (Stern, 2006). Climate changes have linkages to rising temperatures, increasing sea levels, greater inconsistency in weather patterns, changing rainfall patterns, and, have the likely to extreme disrupted commercial activity. In particular, climate change can affect business activity through industry-specific risk (Sadorsky, 2011). To check the effect of climate change, a global Consensus emerges to shift towards clean renewable energy and Bioenergy provides an alternative of clean renewable energy.

The global requirement of energy is increasing day by day. There is a continuous increase in energy demand. In 2016-17 annual increase in energy requirement is 1.5 % in 2016, and

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2% increase in 2017. The increase in total main energy supply has been met by oil 40%, coal 20%, and natural gas 20%, while renewables are lagging (0.7%) and rest by other resources such as wood etc. Hence, Combined, fossil fuels accounted for 80% of global energy consumption and rest 20 % by environment friendly renewable resources. Due to green policy and reduction in the price of renewable energy technology. This trend appears to continue to 2018 and 2020 also.

        Past data suggests that global oil discovery was in peak in 1960 and study suggests that global oil production will be at his peak in 2010–2020(Aleklett, et al., 2010) (Campbell, 2002). Peak oil theories propose that it is domineering discovery of an alternate to the oil before the peak in oil production (Stern, 2006). Due to concern of global warming and its has clear linkage of energy dependency on fossil fuel, this issues is raised by many global forams and created a consensus in favour of environment friendlyrenewable energy .Many policies has been framed and are globally accepted. Industry-specific risks like regulatory and physical risks has bearing to Climate change (Weyant, 2011) and this can also affect business activity which leads to risks companies and somehow to its reputation, and also litigation and having competitive risks (REN21, 2010). This all creates an environment that paves the adaptation of renewable resources. We will discuss further that biofuels had a growing share of renewable energy.

        The renewable energy in the gross percentage of concluding global total energy consumption was 17.7% in 2017 which is less than 0.2% over the previous year of consumption. Amongst environment friendly renewable energy sources, bioenergy (energy from bio-based sources) have the largest share. In 2017, bioenergy share is of 70% of the renewable energy utilization. However, bioenergy share has been reducing by marginal percentage points (approx. 0.5% - 1%) annually somewhat due to declining use of old-style biomass sources especially woods raw biofuel.

Renewable energy technologies have substantial improvement by using hydro, wind, solar and other renewable electricity for decarbonizing the electricity sector. In 2017, renewable electricity share is about 25% of the electricity generated globally. In 2017, electricity generated by biomass-based sources was the 3ʳᵈ largest renewable electricity source after hydropower and wind. 596 TWh of biopower was produced.

Practically approximately 50% of all energy utilization is used in residential and commercial establishments and heating demand for industrial uses. The major uses of renewable energy sources for heating is from biomass having a share of 96% of the environment friendly renewable heat market globally. Thus, we see that bioenergy have a very significant role in renewable energy. As the fossil fuel-based energy resources are not going to remain forever. The development of alternative environment friendlyrenewable energy resources and technology is the need of time. As we know that hydroelectric and solar electricity is very large capital intensive projects andalso, the potential of hydroelectricity is possible in small geographical pockets. and often face criticism on environment and threat to eco system grounds, Same holds good for nuclear energy. On the other hand, Bioenergy is an easy and efficient widely available energy source.

Bioenergy which is a multifaceted energy system. A complex congregation of feedstock, methodological approach and as end products comprehend the biomass to energy conversion. Presently, bioenergy is the chief global renewable energy source and share more than $2/3^{rd}$ of the renewable energy mix. In the current energy scenario, bioenergy covers 13 - 14% of the over-all energy consumption. There are mainly three major sources of bioenergy namely by Forestry Sector, Argo domestic Sector and the third is municipal and industrial waste. 85% of all the biomass is from Forestry products which are in the form of firewood, charcoal, wood chips. 1.9 billion m³ of wood fuel is used globally in which Asia and Africa and other

developing countries use mostly for cooking and heating. Bioethanol is used globally as an alternative to the petrol.

The forestry sector is the largest contributor to the bioenergy mix globally. used for energy purposes. One of the primary products from forests that are used for bioenergy production is wood fuel. Most of the wood fuel is used for traditional cooking and heating in developing countries in Asia and Africa. Globally, it was used for energy purposes. As per 2017 data, domestic supply of municipal waste to bioenergy was 2.51 EJ which is 58%, and rest 42 % bioenergy was produced by residual industrial waste.

Source and Supply-Since the industrial revolution, the world energy requirement is mostly met by fossil fuels. At the beginning of the industrial revolution, coal was the primary energy source for running steam engine latter on oil and gas was used primary source of energy, where on other hand coal was mostly used for thermal powerhouses and the small industry or domestic energy consumption.In last 20 years, consumption of as energy source was met oil by 22%, natural gas by 50% and coal has increased by 65%, whereas environment friendly renewables have increased by 48%. Increase of coal as energy fuel is mostly due to thermal powerplants in China, India and another coal-producing energy hungry country. During 2016 - 2017, the increase in the supply of fossil fuels more than the supply of renewable energy. Total primary energy supply during 2016 - 17 is increased by 1.5% where an increase in the supply of oil (1.4%) and natural gas (2.4%), coal (1.5%), while renewables (0.7%) are lagging. This growth pattern continues further in subsequent years. last 17 years percentage of renewable energy is in between 13 to 14 per cent of total energy supply (WBA, 2019).

Table 01
Yearly Energy Supply

	Year					
	2000	**2005**	**2010**	**2015**	**2016**	**2017**
Oil	153	168	173	182	184	186
Natural Gas	86.8	98.8	115	123	127	130
Coal	97	125	153	161	156	158
Nuclear	28.3	30.2	30.1	28.1	28.5	28.8
Renewables	54.7	59.4	68.2	77.8	80.6	81.1
Total	420	481	539	572	576	585
Renewables%	13.00%	12.30%	12.60%	13.60%	14.00%	13.90%

Unit: In EJ. ((IEA, 2019)
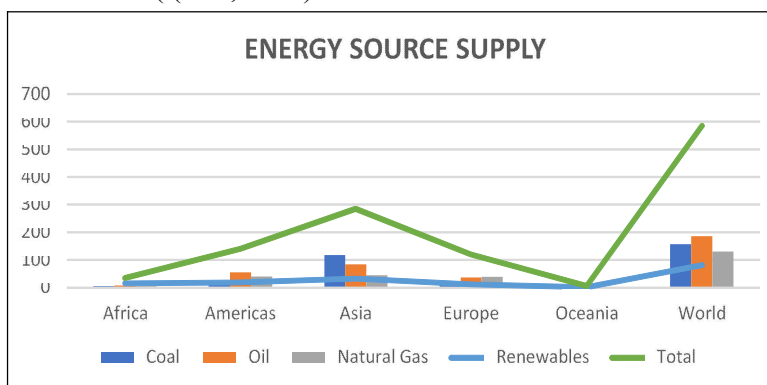
Figure 1 Energy source Supply
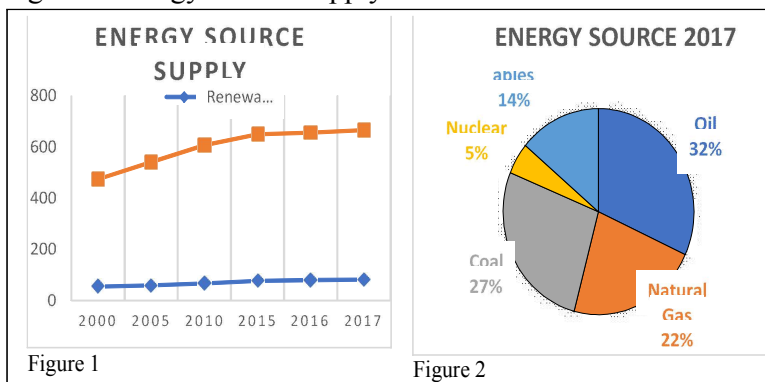
Much over the past 17 years, the percentage share of renewable energy supply was consistent. During 2015 - 2016, the primary energy supply of renewables increased by almost 3

EJ. However, their growth reduced in 2017 with less than 0.5 EJ further to the energy supply while at the same time, fossil fuels added 7 EJ. Hence meeting the global energy cumulative demand.

Among all continents in 2017, Asia's consumes most of the global energy supply of fossil fuels which was (284 EJ) was the major contribution of 50% of the global supply. Europe, North and South America shares 47% whereas African continent contribution of extremely low at 6% share. In the African continent, 47% of the energy supply comes from non-fossil sources which are used excessive use of biomass for cooking and heating mostly in domestic use received from non-fossil sources.

Consumption-Since 1988 global environment friendly renewable energy utilization having steeped increasing trend due to USA and Europe increasing consumption, There is also a significant increase in Asia, South America and Oceania (Sadorsky, 2011)

The global total energy utilization of energy sources was 370 EJ in 2017, It is an increase of 2% more than the past year. 40% of the global energy consumption is in the form of petroleum products.Whereas gas and coal have an equal share of 20% each. Therefore Collectively, fossil fuels contribute 80% of the global energy utilization in 2017.

Table2
Energy Resources Utilization

	2000	2005	2010	2015	2016	2017
Total Electricity	15522.00	18381.00	21571.00	24372.00	25082.00	25717.00
Renewable Electricity	2950.00	3412.00	4337.00	5689.00	6119.00	6461.00
Biomass	164.00	226.00	360.00	517.00	571.00	596.00
Hydro	2700.00	3019.00	3532.00	3993.00	4170.00	4197.00
Solar	1.52	4.50	33.80	260.00	339.00	454.00
Wind	31.40	104.00	341.00	839.00	958.00	1127.00
Geo-thermal	52.00	58.30	68.10	80.50	81.70	85.30
Tide etc.	0.55	0.52	0.51	1.01	1.03	1.04
Renewable (%)	0.19	0.19	0.20	0.23	0.24	0.25

Unit: In EJ. . ((IEA, 2019)

Continent wise energy consumption

	30000.00
	25000.00
	20000.00
	15000.00
	10000.00
	5000.00
	0.00

Africa   Americas   Asia   Europe   Oceania   World

Total   Renewable Electricity

Figure 4 Continent wise energy consumption

All though, net growth of renewable energy is growing in the last 20 years.However, the percentage share, total energy remains consistent around 17 to 20 per cent of total energy production and consumption. Noticing the fact that the percentage consumption share of fossil fuel 80% in 2000, it shows the partial progress globally in environment friendly renewables substituting fossil fuels. Still, there is the growth of uses of renewable energy due to new technology which is economically more available increased its use in sectors of transportation, electricity and heating (WBA, 2019). However, during 2000 - 2017 there was remarkable growth had been seen in renewables energy. The growing demand for energy globally ensures that fossil fuels still has a significant share in meeting global demand. The portion of renewable energy in the total global energy production and hence meeting global demand was 17.7% which is 2017 – a marginal reduction drops of 0.2% over the preceding year.

Table 3
Continent wise energy consumption

	Africa	Americas	Asia	Europe		Oceania	World
Total	805.00	6560.00	12879.00	5158.00		302.00	25704.00
Renewable Electricity	141.00	2081.00	2622.00	1529.00		76.00	6449.00
Biomass	1.94	159.00	213.00	218.00		4.09	596.00
Hydro	120.00	1458.00	1762.00	809.00		41.50	4190.00
Solar	4.21	83.00	235.00	123.00		8.15	453.00
Wind	10.30	352.00	381.00	367.00		15.00	1125.00
Geothermal	4.20	28.60	31.70	12.30		7.91	84.70
Tide etc.	0.00	0.02	0.49	0.53		0.00	1.03

Unit: In EJ. (IEA, 2019)
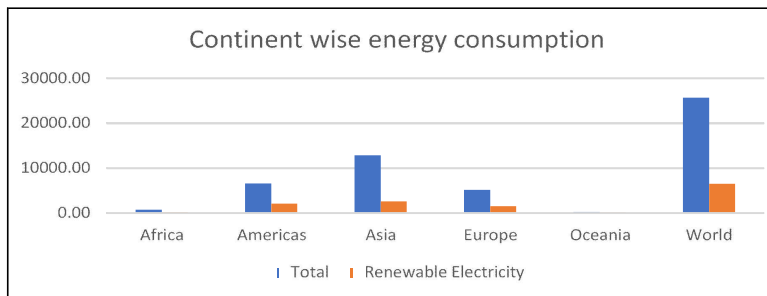
Figure 5. Continent wise energy consumption Unit: In EJ. (IEA, 2019)
Table 4
Primary energy: Consumption by fuel

	Year 2019					
Exajoules	Oil	gas	Coal	energy	electricity	Total
Total Africa	8.28	5.59	4.32	0.12	1.22	19.87
Total Europe	30.27	19.93	11.13	8.29	5.6	83.46
Total North America	45.15	37.98	12.52	8.59	6.14	116.9
Total S. & Central America	11.84	5.88	1.45	0.22	6.25	28.33
Total Europe	30.27	19.93	11.13	8.29	5.6	83.46
Total Middle East	17.03	19.6	0.4	0.06	0.3	37.51
of which: OECD	90.16	64.8	32.3	17.78	12.87	234.48
Non-OECD	101.73	75.74	125.34	7.15	24.81	347.04
European Union	23.17	14.08	7.32	6.82	2.83	60.74
Other Asia Pacific	0.96	0.41	1.23	-	0.61	3.23
Total Asia Pacific	70.67	30.89	122.37	5.77	15.97	256.54
India	9.99	2.13	18.6	0.4	1.44	33.89
Total World	191.89	140.54	157.64	24.93	37.69	581.51

(BP. ENERGY, 2021)

Table 5
Primary energy: Consumption Gigajoules per capita

Year	Total North America	Total North America	Total Europe	Total CIS	Total Middle East	Total Africa	Total Asia Pacific	India	Total World
2010	248.2	248.2	134.4	152.1	135.3	15.4	50.7	18.2	**72.6**
2011	245.7	245.7	130.9	157.5	138.2	15	52.9	19	**73.5**
2012	238.4	238.4	129.9	158.1	140.6	15.2	54	19.8	**73.6**
2013	242.1	242.1	128.2	154.7	141.4	15.2	55.1	20.3	**74.1**
2014	242	242	122.8	154.8	143.6	15.4	55.9	21.4	**73.9**
2015	238.2	238.2	123.5	152	145.2	15.3	56.4	21.9	**73.8**
2016	235.9	235.9	124.7	153	146.7	15.3	57.1	22.6	**73.9**
2017	235.1	235.1	125.5	153.7	146.2	15.3	58.3	23.3	**74.4**
2018	240.5	240.5	125.3	160	144.5	15.3	59.8	24.5	**75.5**
2019	236.6	236.6	123.1	158.4	146.2	15.2	60.9	24.8	**75.4**
Growth per annum									
2020	**216.8**	**216.8**	**113.6**	**150.4**	**139.6**	**13.9**	**59.6**	**23.2**	**71.4**
020	8.60%	8.60%	8.00%	5.30%	4.70%	9.00%	2.30%	6.80%	**5.50%**
2009-19	0.30%	0.30%	0.60%	0.80%	1.20%	0.10%	2.40%	3.50%	**0.70%**
(BP.ENERGY, 2021)									
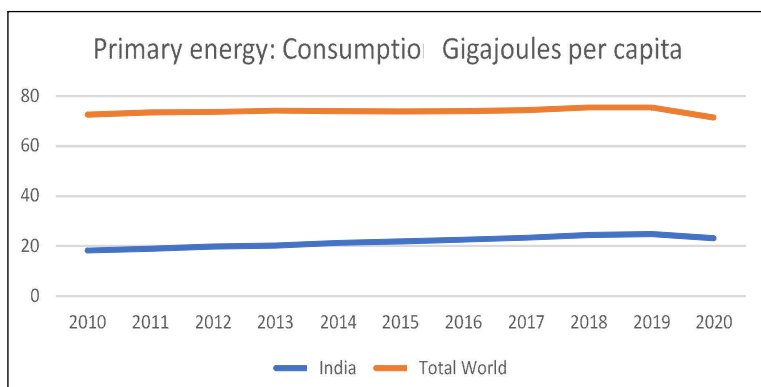
Figure 6 Primary energy: Consumption Giga joules per capita

Figure   1   World consumption in Gigajoules (BP.ENERGY, 2021)

Figure 2. Shares of global primary energy in Gigajoules
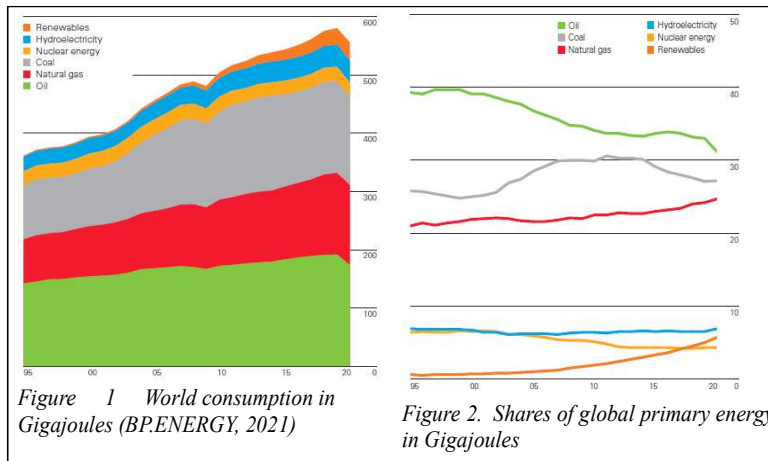
Primary energy consumption decreased by 4.5% last year, the first deterioration in energy consumption since 2009. The deterioration was driven largely by oil (-9.7%), which reported for almost three quarters of the decline. Utilization for all fuels decreased, apart from renewables (+9.7%) and hydro (+1.0%). Consumption fell across the globe, with the largest drops in North America (-8.0%) and Europe (-7.8%). The lowest reduction was in Asia-Pacific (-1.6%) due to the growth in China (+2.1%), the only major country where energy consumption increased in 2020. In the other regions, the decline in consumption ranged between -7.8% in South and Central America to -3.1% in the Middle East. In india there was a moderate increase seen in consumption of environment friendly renewable energy.

Renewable Electricity-There is considerable progress in renewable technology which have minimal carbon emmesion, especially in the electricity sector. This is an outcome of the effort to adhere the policies of decarbonising the electricity production process. since the beginning of the year 2000.

The percentage share of Renewable electricity was 19% has increased by 6 per centage points, from 25% in 2017 - as total electricity production has increased by more than 10,000 TWh.

The major increase in electricity production through the same period was by hydropower (1 500 TWh) and wind (1096 TWh) and also it is noteworthy that there is a contribution from biopower (430 TWh) and solar power (450 TWh). However, the fast growth in power production from solar and wind is quite understandable from the statistic that in last 17 years, power production augmented by a factor of 300 and 36 from solar and wind respectively while biopower increased only by a factor of 4. This is also due to reduction in the cost of associated technology and equipment's significantly in last decade.

Still, however, in 2017, electricity generated from biomass-based sources was the 3rd largest renewable electricity source after hydropower and wind. Collectively 596 TWh of biopower was generated (WBA, 2019).

Table 6
Electricity by Renewable Resources

	2000	2005	2010	2015	2016	2017
Total Electricity	15522.00	18381.00	21571.00	24372.00	25082.00	25717.00
Non Renewable	12572.00	14969.00	17234.00	18683.00	18963.00	19256.00
Renewable Electricity	2950.00	3412.00	4337.00	5689.00	6119.00	6461.00
Biomass	164.00	226.00	360.00	517.00	571.00	596.00
Hydro	2700.00	3019.00	3532.00	3993.00	4170.00	4197.00
Solar	1.52	4.50	33.80	260.00	339.00	454.00
Wind	31.40	104.00	341.00	839.00	958.00	1127.00
Geo-thermal	52.00	58.30	68.10	80.50	81.70	85.30
Tide etc.	0.55	0.52	0.51	1.01	1.03	1.04
Renewable (%)	0.19	0.19	0.20	0.23	0.24	0.25

Unit: In EJ. (IEA, 2019)

Figure 9 Electricity by Renewable Resources Unit: In EJ.(IEA, 2019)

In 2017, Asia has 20% of its electricity generated from renewable source in which Europe and the Americas have more than 30% of its electricity from renewable energy sources. Primarily due to the extensive availability and uses of hydropower (e.g. China and Brazil). India rank sixth in hydropower. Apart from hydropower, renewable electricity from solar Asia generates the most amount of renewable electricity at 2 622 TWh followed by Americas at 2 081 TWhr, Wind and biomass have a similar pattern of contributions among all continents as shown in below graph.
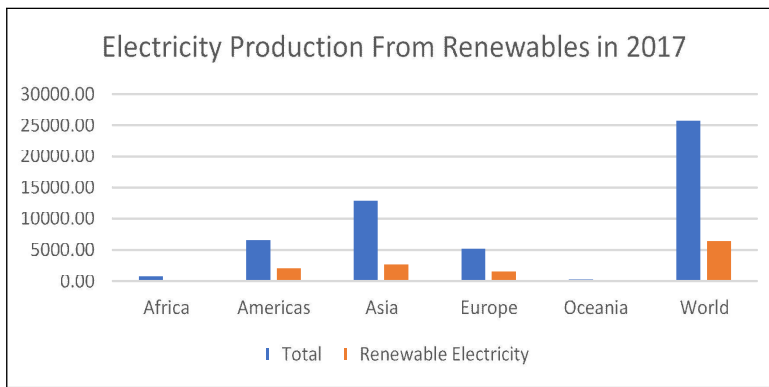
Figure 10 Electricity Production from Renewables in 2017
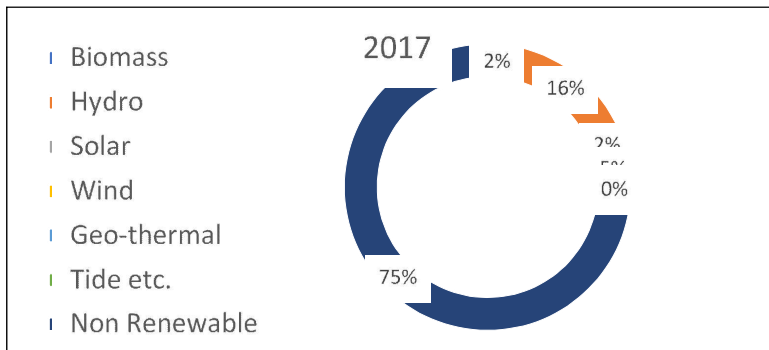
Figure 11. Electricity production share 2017 Unit: In EJ. (IEA, 2019)

Renewable Heating- Almost half of the global heating energy consumed by Residential and Commercial space, as well as

domestic heatinguses. Biomass as wood fuel, charcoal, agriculture residuals, animal solid waste are the prime energy resources used in developing and underdeveloped countries. Separately from biomass having 96% part in the renewable heat global market, whereas least share is from solar thermal (e.g. Concentrated Solar Power) and geothermal sources. hence as.

	2000	2005	2010	2015	2016	2017
Total	0.43	0.55	0.82	1	1.1	1.12
Biomass	0.41	0.53	0.8	0.96	1.05	1.08
Solar Thermal	0	0	0	0	0	0
Geothermal	0.02	0.02	0.03	0.03	0.04	0.04

Figure 12 Renewable Heating Unit: In EJ. (IEA, 2019)
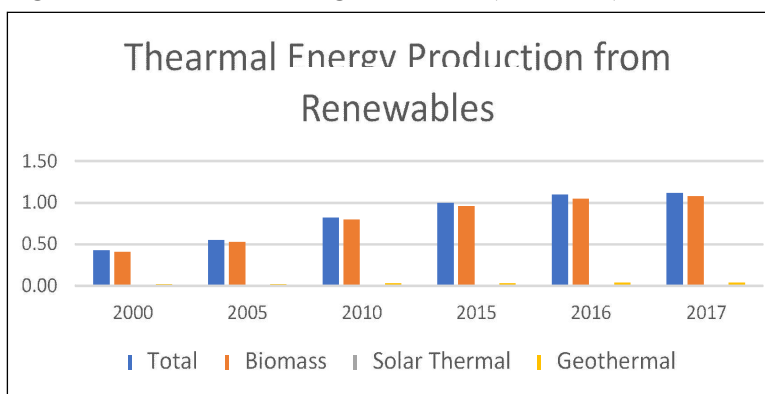
Figure 13 Yearly Renewable Thermal Energy Production

Easily availability in all-region and easy to use is the prime benefit of bioenergy. Agriculture residues, forest and domestic animals waste have local availability as low-cost resources as fuel requirements (space heating, hot water etc.) offer much-needed alternatives to traded fossil fuels. Europe is the prime in Biomass-based power and ranks first which hold the 87 percent of share and mostly from the Scandinavian region. This is mainly due to pervasiveness of district heating networks and strategically focus on moving towards environment friendly renewable heating. Also other renewable heating sources, such as both geothermal and solar energy are concentrated in Europe.

Hence Europe is more focusing on shifting towards renewable energy (WBA, 2019). Heat production from renewables in continents in 2017

	Africa	Americas	Asia	Europe	Oceania	World
Total	0	0.06	0.08	0.98	0	1.12
Biomass	0	0.06	0.08	0.94	0	1.08
Solar Thermal	0	0	0	0.002	0	0.002
Geothermal	0	0	0	0.04	0	0.04

Figure 14 Regional distribution of Renewable Thermal Energy Production Unit: In EJ. (IEA, 2019)

Renewable Energy for Transport Sector- In the last two decades, lots of technological development seen in the area of Biomass-based Fuels (biodiesel, bioethanol etc.) these biomass-based fuels share is only 3 percent which is 3.5 EJ. Whereas electricity-based renewable energy for transport is 1.1% globally. It is noticeable that one-third of electrical energy is from renewable source whereas the contribution of renewable electricity is much less $\pm 0.3\%$ (WBA, 2019).

Table 7
Energy use in the transport sector (non-fossil oil), yearly

	2000	2005	2010	2015	2016	2017
Total Renewable	1.19	1.72	3.4	4.51	4.72	4.81
Biofuels	0.42	0.81	2.35	3.29	3.43	3.5
Renewable Electricity	0.15	0.17	0.21	0.28	0.31	0.33
Fossil Electricity	0.63	0.74	0.84	0.93	0.97	0.98

Unit: In EJ. (IEA, 2019)

Table 8
Energy use in the transport
sector (non-fossil oil) in continents in 2017

	Africa	Americas	Asia	Europe	Oceania	World
Total Renewable	0.02	2.55	0.94	1.25	0.03	4.81
Biofuels	0	2.48	0.34	0.67	0	3.5
Renewable Electricity	0	0.02	0.12	0.17	0.01	0.33
Fossil Electricity	0.02	0.05	0.47	0.41	0.02	0.98

Unit: In EJ(IEA, 2019)

A very important development is bioethanol which is primarily used in the USA produced by corn and in brazil by sugar

cane. Decent levels of renewable biofuel share in transportation are also seen in Europe.

How renewable energy sources contribute to the energy demand in India- India had shown phenomenon economic growth in last three decade and hence demand of energy resources is increases many folds. Many energy resources are needed to fulfill the requirement. The difference between supply and demand of energy resources is expected to rise in the future On the other hand, the increasing population and worsening environmental factor, india is facing the challenge of sustainable development. The gap between demand and supply of power is expected to rise in the future (Inaki, 2013) .

Table 9
Energy use in the transport
sector (non-fossil oil) in continents in 2017

Year	Availability (GWh)	Requirement (GWh)	Surplus(+)/Deficits(—)	
			(GWh)	(%)
2009-2010	7,46,644	8,30,594	- 83,950	-10.11
2010-2011	7,88,355	8,61,591	- 73,236	-8.50
2011-2012	8,57,886	9,37,199	-79,313	-8.46
2012-2013	9,11,209	9,98,114	- 86,905	-8.71
2013-2014	9,59,829	10,02,257	- 42,428	-4.23
2014-2015	10,28,955	10,67,085	-38,130	-3.60
2015-2016	10,90,850	11,14,408	- 23,558	-2.10
2016-2017	11,35,332	11,42,928	- 7596	-0.66
2017-2018 (till October 2018).	12,03,567	12,12,134	- 8.567	-0.7

(IEA, 2019)
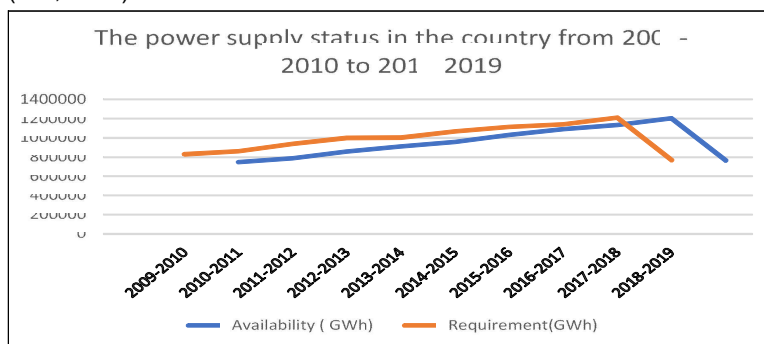
Figure 15.The power supply status in the country from 2009-2010 to 2017-2019

 As per Load generation and Balance Report (2016-2017) of the Central Electricity Authority of India (CEA) the electrical energy demand for 2021-2022 is anticipated to be at least 1915 terawatt hours (TWh), with a peak electric demand of 298 GW (VikasKhare, 2013) . Due to Urbanization and increase in spending capacity and changed life style, house hold energy consumption increases. There is also global increase in power consumption in industrial as well as in agriculture sector the uses of electricity in transport sector and commercial sector is also increased in India in Table 9. According to the International Renewable Energy Agency

Table 10
Projection of Electricity demand
in different demand sectors in india

	(TWh)					
	Industry	Residential	Commercial	Agriculture	Others	Total
2012	336	175	86	136	29	762
2022	494	480	142	245	71	1433
2030	703	842	238	336	121	2239
2047	1366	1840	771	501	233	4712
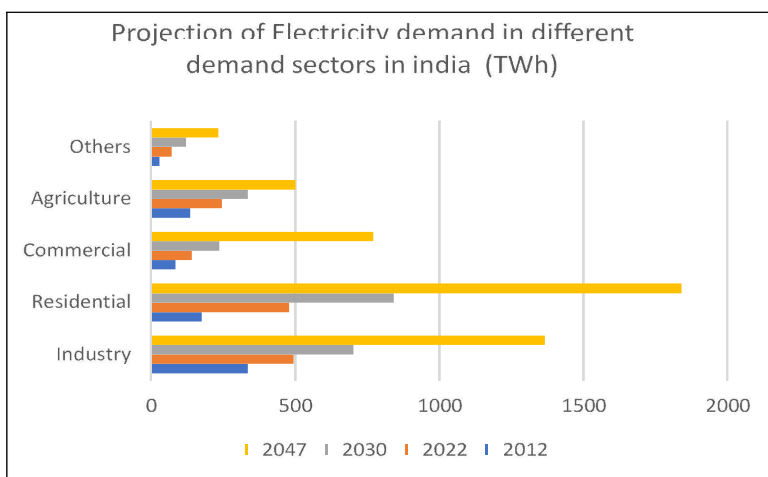
(IEA, 2019)Figure 16Projection of Electricity demand in different demand sectors in india

Power supply position of the India from 2009-2010 to 2018-2019 (until October 2018). In 2018, the energy demand was 1,212, 134 GWh, and the availability was 1,203,567 GWh, i.e., a2018, the estimated potential of of small hydropower 19.749 GW, biomass power 17.536 GW, bagasse cogeneration 5 GW, wind-based power was 302.251 GW (at 100-m mast height),
Supply

Table 11
**Renewable energy: Generation by
source , Terawatt-hours**

	Wind	Solar	Other Renewables	2019 Total	Wind	Solar	Other Renewables	2020 Total
Total North America	348.3	119.6	95.3	563.1	396.7	150.3	95.1	642.1
Total S. & Cent. America	78.8	19.1	83.5	181.4	85.4	22.8	84.7	192.9
Total Europe	460	152.8	227.2	840	510.1	178.9	232	921
Total CIS	1.3	1.7	0.8	3.8	2.6	4.8	0.8	8.1
Total Middle East	1.6	11.9	0.3	13.8	1.9	16.4	0.3	18.6
Total Africa	18.9	10.9	8.2	38	21.8	12.4	8.1	42.3
Total Asia Pacific	509.4	392	247.8	1149.2	572.6	470.3	279.1	1322
India	63.3	46.3	29.7	139.2	60.4	58.7	32.1	151.2
Total World	1418.2	707.9	663.1	2789.2	1591.2	855.7	700.1	3147

(BP.ENERGY, 2021)

Table 12
Renewable energy: Generation by source, Terawatt-hours

2020 Growth rate				
Energy Source Region	Wind	Solar	Other Renewables	Total
Total North America	13.60%	25.30%	-0.50%	13.70%
Total S. & Cent. America	8.20%	19.00%	1.10%	6.10%
Total Europe	10.60%	16.80%	1.90%	9.40%
Total CIS	93.40%	180.00%	-0.90%	113.00%
Total Middle East	22.40%	37.40%	-0.30%	34.80%
Total Africa	15.20%	13.50%	-2.20%	10.90%
Total Asia Pacific	12.10%	19.60%	12.30%	14.70%
India	-4.80%	26.50%	7.90%	8.30%
Total World	11.90%	20.50%	5.30%	12.50%

(BP.ENERGY, 2021)

Table 13
Renewables: Biofuels production

Growth Rate Per Annum, Thousand Barrels of Oil Equivalent Per Day								
	Total North America	Total S. & C ent. America	Total Europe	Total CIS	Total Middle East	Total Africa	Total Asia Pacific	India	Total World
2010	497	336	204	1	1	2	68	3	**1125**
2011	543	309	201	1	1	2	109	5	**1195**
2012	551	316	217	1	1	2	132	5	**1215**
2013	593	356	234	1	1	2	158	5	**1325**
2014	603	384	256	1	1	2	191	5	**1443**
2015	623	396	260	1	1	3	159	10	**1444**
2016	668	392	252	1	1	3	180	12	**1491**
2017	675	399	286	1	1	2	188	11	**1562**
2018	669	461	304	1	1	3	246	18	**1721**
2019	671	482	309	1	1	3	306	21	**1790**
2020	**598**	**446**	**295**	1	1	**3**	**310**	**20**	1677
Growth rate per annum									
2020	-11.00%	-7.50%	-4.60%		-	-	1.10%	8.10%	**-6.30%**
2009-19	4.50%	5.10%	5.60%	-3.70%	2.70%	-6.00%	17.10%	26.20%	**6.20%**
2020 Share	35.60%	26.60%	17.60%			0.20%	18.50%	1.20%	**100.00%**

(BP. ENERGY, 2021)

Biomass Supply- More than 2/3rd of the renewable energy supply came from Bioenergy and it is also the largest source of renewable energy. Solid biofuels, municipal and industrial waste, biogas and liquid biofuels, and Corn, Sugarcane and algae-based biofuel are used Primarily as renewable bioenergy sources. 55.6 EJ of biomaterial was used for energy production in 2017. In 2017, - 86% of the use was in the form of primary solid biofuels including wood chips, wood pellets, fuelwood for cooking and heating etc. liquid biofuels. Biogas, Municipal waste, Industrial waste having 7% of the biomass was used.

Concerning the previous year, the main source of biomass reduced by about 1 EJ – which was about a 1.5% reduction since 2016. The year 2017 showed the first time the availability of biomass reduced over the previous year. The reduction was primarily driven due to the decrease in the

availability and uses of primary solid biofuels and its cost compared to fossil fuel and ability of raw material, while on the other hand, the rest of the types including waste, biogas and liquid biofuels increased (WBA, 2019).

Table 14
Domestic supply of biomass globally

	2000	2005	2010	2015	2016	2017
Biomass	42.8	45.9	51.2	55.1	56.5	55.6
Municipal Waste	0.74	0.94	1.16	1.38	1.43	1.45
Industrial Waste	0.49	0.45	0.77	0.89	1.03	1.07
Primary Solid Biofuels	40.4	42.5	45.1	46.9	49.2	48.2
Biogases	0.28	0.5	0.84	1.3	1.31	1.33
Liquid Biofuels	0.86	1.47	3.32	4.72	3.56	3.65

Unit: In EJ(IEA, 2019)
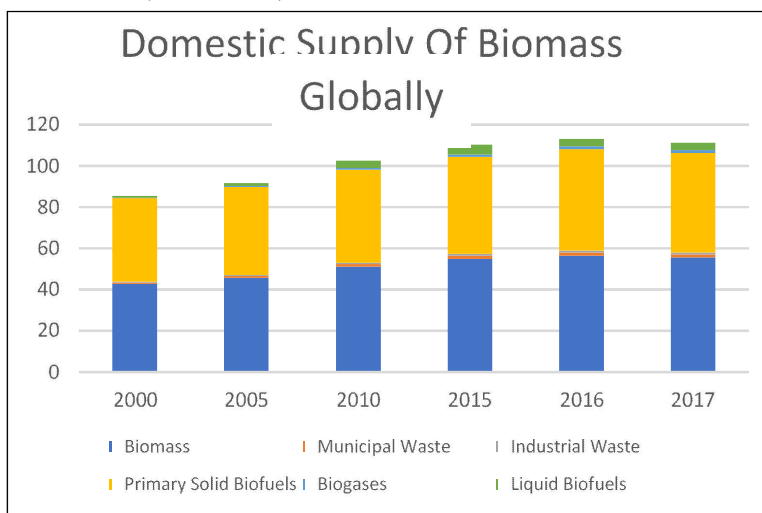
Across the world domestic supply of biomass is highest in Asia followed by Africa and the Americas. Both Asia and Africa account for a high share of biomass due to the extensive use of fuelwood and charcoal for heating and cooking purposes. For liquid biofuels, Americas (USA and Brazil) had the highest share due to high production of bioethanol from corn and sugarcane respectively. Together, the region accounts for more than 70% of the global biofuels supply. Europe leads the way in

biogas supply as it accounts for more than 50% of the global supply. Due to extensive use of waste to energy technologies including incineration, gasification etc. Europe also leads the world in the supply of municipal waste for bioenergy accounting for 2/3rd of the global supply (WBA, 2019).

Table 15
Domestic supply of biomass in continents in 2017

	Biomass	Municipal Waste	Industrial Waste	Primary Solid Biofuels	Biogases	Liquid Biofuels
Africa	15.40	0.00	0.00	15.40	0.00	0.00
Americas	10.80	0.30	0.05	7.70	0.19	2.57
Asia	21.60	0.20	0.61	20.10	0.41	0.35
Europe	7.52	0.95	0.40	4.73	0.71	0.73
Oceania	0.28	0.00	0.00	0.25	0.02	0.00
World	55.60	1.45	1.07	48.20	1.33	3.65

Unit: In EJ (IEA, 2019)
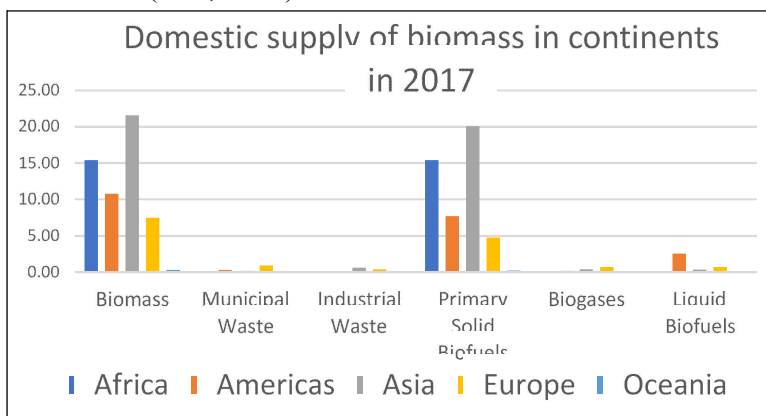
Figure 17 Domestic supply of biomass in continents in 2017
Biomass to Electricity- Electricity Generation biomass is often called biopower, is sustainable renewable energy which is an alternative to fossil fuel. They hold all benefits of fossil fuels such as easy to use, store and transportability used in the form of slices, logs and pellet's.

In the year 2017, there was global production of biopower was 596 TWH which was 4 per cent higher that is 25 TWh and in last one decade 3.6 growth. This is also notable that primarily solid biofuels including wood chips and wood pellets cover 65% of the total of biopower generation in electricity only and

combined heat/power plants. Whereas,municipal and industrial waste contributes 19% and biogas had a portion of 14% which is very significant and it has also an environmental impact. Liquid biofuels from a relatevly lesser part of biopower generation are very relevant to caters the transport sector needs (WBA, 2019).

Table 16
Biopower generation globally

	2000	2005	2010	2015	2016	2017
Total	164.00	226.00	360.00	517.00	571.00	596.00
Municipal Waste	34.30	46.20	62.40	72.80	71.90	74.10
Industrial Waste	15.30	11.70	20.40	30.20	36.50	40.00
Solid Biofuels	102.00	145.00	226.00	324.00	369.00	389.00
Biogas	13.10	21.00	46.40	82.70	84.70	86.30
Liquid Biofuels	0.00	1.98	5.07	76.20	8.07	6.68

Unit: In TWh.(IEA, 2019)

(IEA, 2019)
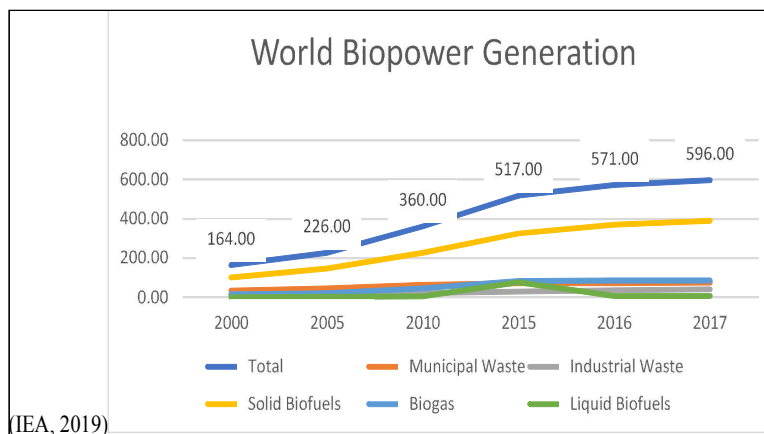
Figure 18 World Biopower Generation Unit: In TWh. (IEA, 2019)

Globally Europe 218 and TWh Asia 212 TWh are the prime producers of biomass powerare discussed solid biofuels like pellets, woodchips and municipal west are the key source of Biopower. Europe producing most of the biopower around sixty-three per cent with municipal waste which accounts three fourth of global biofuel production.

Table 17
Global Distribution of biopower

	Africa	Americas	Asia	Europe	Oceania	World
Total	1.80	159.00	212.00	218.00	4.17	596.00
Municipal Waste	0.00	16.30	10.60	47.00	0.09	74.10
Industrial Waste	0.00	1.92	31.80	6.23	0.00	40.00
Solid Biofuels	1.78	125.00	164.00	95.30	2.63	389.00
Biogas	0.02	16.10	4.68	64.10	1.45	86.30
Liquid Biofuels	0.00	0.22	1.47	4.99	0.00	6.68

Unit: In EJ(IEA, 2019)
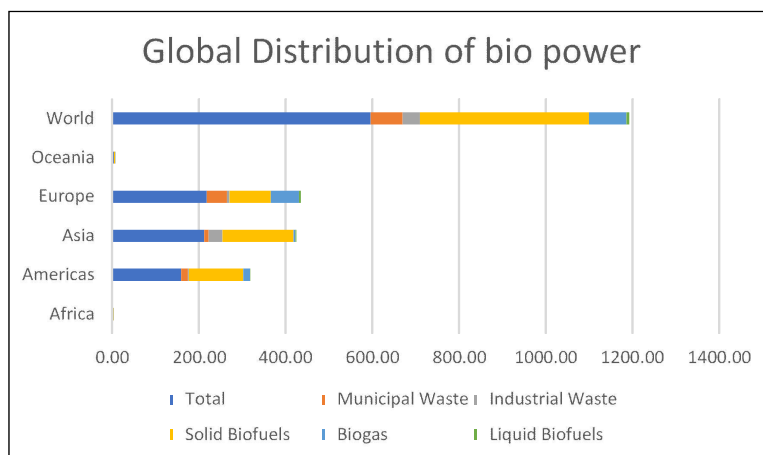
Figure 19 Global Distribution of biopower

Table 18
Estimated contribution of renewable
energy sources tothe total energy demand in india
(REMAP, 2017)

		Installed capacity of renewable energy Sources (GW)	
Expected Generation (Billion Unit)	Solar	162	243
	Wind	122	188
	Biomass	38	64
	Small hydropower	15	21
	Total	327	516
Total energy reguirement (Billion Unit)		1611	2132
% The Contribution of renewable energy source		20.3	24.2

As shown in table 17 projected contribution of renewable energy sources to the total energy demand. MoP along with CEA in its draft national electricity plan for 2016 is that with 175 GW of installed capacity of renewable power by 2022, the projected electricity generation would be 327 billion units (BUs), which can contribute to 1611 BU energy requirements. However, that around 20 % of the energy requirements could be met by renewable energy by 2022 and around 24% by 2027 is the projected figure (CEA, 2016).. The estimated total renewable potential amounted to 1096.080 GW(Bandyopadhyay, 2017)assuming 3% wasteland, which is shown in Table 17

Gross installed capacity of renewable energy in India- As of June 2018 reports, the country intends to reach 225 GW of renewable power capacity by 2022 exceeding the target of 175 GW pledged during the Paris Agreement. The sector is the fourth most attractive renewable energy market in the world. As in October 2018, India ranked fifth in installed

Table 19
State-wise Renewable Energy Potential (in MW)

SL No.	States/UTs	Wind power (MW)	Small hydro power	Bio-energy			Solar	Total
				Bioma ss power	Bagasse cogenerati on	Waste to energy		
1	Andhra Pradesh	44.229	0.978	0.578	0.3	0.123	38.44	84.648
2	Arunachal Pradesh	0	1.341	0.008	0	0	8.65	9.999
3	Assam	0	0.239	0.212	0	0.008	13.76	14.219
4	Bihar	0	0.223	0.619	0.3	0.073	11.2	12.415
5	Chhattisgarh	0.077	1.107	0.236	0	0.024	18.27	19.714
6	Goa	0.001	0.007	0.026	0	0	0.88	0.914
7	Gujarat	84.431	0.202	1.221	0.35	0.112	35.77	122.086
8	Haryana	0	0.11	1.333	0.35	0.024	4.56	6.377
9	Himachal Pradesh	0	2.398	0.142	0	0.002	33.84	36.382
10	Jammu & Kashmir	0	1.431	0.043	0	0	111.05	112.524
11	Jharkhand	0	0.209	0.09	0	0.01	18.18	18.489
12	Karnataka	55.857	4.141	1.131	0.45	0	24.7	86.279
13	Kerala	1.7	0.704	1.044	0	0.036	6.11	9.594
14	Madhya Pradesh	10.484	0.082	1.364	0	0.078	61.66	74.406
15	Maharashtra	45.394	0.794	1.887	1.25	0.287	64.32	113.932
16	Manipur	0	0.109	0.013	0	0.002	10.63	10.754
17	Meghalaya	0	0.023	0.011	0	0.002	5.86	6.103

18	Mizoram	0	0.169	0.001	0	0.002	9.09	9.262
19	Nagaland	0	0.197	0.01	0	0	7.29	7.497
20	Odisha	3.093	0.295	0.246	0	0.022	25.78	29.436
21	Punjab	0	0.441	3.172	0.3	0.045	2.81	6.768
22	Rajasthan	18.77	0.057	1.039	0	0.062	142.31	162.238
23	Sikkim	0	0.267	0.002	0	0	4.94	5.209
24	Tamil Nadu	33.8	0.66	1.07	0.45	0.151	17.67	53.801
25	Telangana	4.244	0	0	0	0	20.41	24.654
26	Tripura	0	0.047	0.003	0	0.002	2.08	2.132
27	Uttar Pradesh	0	0.461	1.617	1.25	0.176	22.83	26.334
28	Uttarakhand	0	1.708	0.024	0	0.005	16.8	18.537
29	West Bengal	0.002	0.396	0.396	0	0.148	6.26	7.202
30	Andaman & Nicobar	0.008	0.008	0	0	0	0	0.016
31	Chandigarh	0	0	0	0	0.006	0	0.006
32	Dadra & Nagar Haveli	0	0	0	0	0	0	0
33	Daman & Diu	0	0	0	0	0	0	0
34	Delhi	0	0	0	0	0.131	2.05	2.181
35	Lakshadweep	0.008	0	0	0	0	0	0.008
36	Puducherry	0.153	0	0	0	0.003	0	0.156
37	Others	0	0	0	0	1.022	0.79	1.812
	Total	302.251	19.749	17.536	5	2.554	748.99	1096.08

(Kumar & Majid, 2020)

From Table 18, It has been observed that Gujrat is the highest wind power state of India. The second and third highest wind power states of India are Karnataka and Maharashtra. There are about twenty-one states including others which have zero wind power. The state which have highest small hydro power is Karnataka. The second and third third highest small hydro power states of India are Himachal Pradesh and Uttarakhand. There are about eight states including others which have zero small hydro power. Bio-energy is divided in three parts biomass power, Bagasse cogeneration and waste to energy. The state which have highest biomass power is Punjab. The second and third highest biomass power states of India are Maharashtra and Uttar Pradesh. There are about nine states including others which have nearly zero biomass power. There are two states Maharashtra and Uttar Pradesh whose Bagasse cogeneration is highest. In India, about twenty-eight states including others have zero Bagasse cogeneration. The highest

waste to energy in India is in others states. There are about eleven states including others which have nearly zero waste to energy. India also produces solar energy. In production of solar energy, Rajasthan have number one position in India. There are about six states including others which have zero Solar energy in It has also been observed that Rajasthan has highest renewable energy potential in India. The second and third highest renewable energy potential states of India are Gujarat and Maharashtra. There are two states Dadra & Nagar Haveli in India which have about to zero renewable energy potential(Kumar & Majid, 2020)

Future Scenario- In the context of the future about the renewable energy scenario, Biofuel has a big role due to its lesser complex technology as compared to other like Nuclear or Hydrogen fuel cells. Consensus, on climate change and energy security renewable energy, gives an alternative approach for cleaner and environment-friendly energy. The use of renewable energy was inspired by taking care of climate change, scenario and there for green policy. Another reason was ensuring energy security of future and hence, which is in the clear understanding that conventional fossil fuel-based energy resources are depleting resources and may not sustain to support future energy requirement. The extrapolation by moving forward the trend line of past to distant future because there are many dynamic factors behind renewable energy. The change in underneath technology development and changing global polices and underneath all above the economics and availability.

Table 20
Projected primary energy
consumption of India (including
renewable energy) from 2016 to 2040 (Energy, 2018)

Level (Mtoe)								
	Total	Oil (Mb/dl)	Gas (Bcf/dl)	Coal	Nuclear	Hydro	Renewables	
1990	195	58	11	110	1	15	0	
1995	251	75	17	140	2	17	0	
2000	316	106	24	164	4	17	1	

2005	394	122	32	211	4	22	2	
2010	537	155	54	290	5	25	7	
2016	724	212	45	412	9	29	17	
2020	880	251	57	485	11	36	41	
2025	1118	308	72	593	16	43	86	
2030	1365	359	89	710	27	47	133	
2035	1624	419	106	824	35	50	191	
2040	1921	485	128	955	44	52	256	
1990-2016	52%	5.1%	5.6%	52%	7.1%	2.6%	35.1%	35.1%
2016-2040	42%	35%	45%	3.6%	7.0%	25%	12.0%	12.0%

As shown above in Table 20 and table 10 shows the projected primary energy consumption pattern of India from 2016 to 2040. From table 20, it has been observed that the level of Oil in years 1990 to 2016 was 5.1% which will be 35% in years 2016 to 2040, level of Gas in years 1990 to 2016 was 5.6% which will be 45% in years 2016 to 2040, level of Coal in years 1990 to 2016 was 52% which will be 3.6% in years 2016 to 2040, level of Nuclear in years 1990 to 2016 was 7.1 % which will be 7.0% in years 2016 to 2040, level of Hydro was 35.1% in years 1990 to 2016 which will be 12.0% in years 2016 to 2040 and level of Renewables in years 1990 to 2016 was 35.1% which will be 12.0% in years 2016 to 2040. It has also been observed that total primary energy consumption of India in years 1990 to 2016 was 52% which will be 42% in years 2016 to 2040(Kumar & Majid, 2020)

Table 10 gives the secter wise uses of projected primary energy consumption pattern of India from 2016 to 2040.One of the prime concerns that many energy hunger nations like india doesn't have a sufficient source of fossil fuel. Use of coal or its derivative is not economically efficient as energy source for the Transportation industry. Electricity base locomotive is the only possibility that caters non-biofuel electricity but in road transportation, it is still technically not much widely used. However, the automobile industry showing adopting electric cars and have a promising future. The concept of the electric car was given first by Tesla hundreds of years back and a new company named Tesla is doing significant development in hybrid and electric automobile. Nearly all of the main auto manufacturers now working on or producing hybrid vehicles

and many are producing or planning electric cars in the not too distant future (Anon., 2010). Biofuel by Corn, Sugar cane and Algy is used and shall grow share wise in future. Many efforts were going on to develop technology to be developed by rice and wheat husks and its biowastes for making ethanol. The author has an opportunity to witness the activities in technology development researchin the Institute of Chemical Technology, Mumbai. By the end of the century, there will be a prediction of 50-80% share will of renewable energy whereas currently 80 per cent of energy from fossil fuel thus it's understandable that in future renewable energy is going replace the role of Ideally, a clean and secure energy future would be one where the share of renewable energy in total energy demand in 2100 is at least as large as the current value of the share of fossil fuel in total energy demand (80%). The wide range of values for this scenario reflects the inherent uncertainty in forecasting so far in the futures renewable energy is going to replace fossil fuel (Sadorsky , 2011). And as seen above current trends if persist Bio Full shall have a significant share of it and incoming, future Biofuel will have a major role in future.

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Spiritual Bonding and Environmental Challenges in Preserving River Ganga in 21st Century

• **Dr. Surabhi Misra**

Introduction- Since times immemorial it has been strongly believed that God is the creator of each and every element on this earth. This gives the most logical reason why our culture and religion, especially Hinduism, has observed mountains, rivers, forests and other element of nature resources as sacred entities. Such beliefs towards the environment not only builds a positive thought process but also helps promote issues and movements to promote environmental sustainability. (Douglas, M.K Wildavsky, A (1983) It drastically lowers down the risk graph towards harmful environmental hazards and pollution. (Dake, K, 1992). Sacred objects are believed to be essentially pure and worthy of reverence (Belk, Wallendorf, & Sherry, 1989) DurKheim, 1912, 1915, Eliade, 1959, Tetlock, 2003.

Culturally constructed sacred beliefs help individuals develop a sort of spiritual bonding which observes the holy Ganga as not only a river but as a living entity. Any adulteration upon its purity is taken as insult or rather as a crime. This hurts the religious and spiritual sentiments of the masses, sometimes out bursting into powerfully motivated intergroup conflicts (Ginges and Alran, 2011).

Since the advent of Vedas, Upanishads and teaching offered by various hindu texts, the holy Ganga has been allotted a postion of very high religious and spiritual importance cultivating and maintaining notions of purity and thus offering respect and preserving its holiness are borne out of it (Frazer 1996 Mc Fague 2008)

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Identifying the holy river as a living entity yields positive consequences for environment protection (Gadgil & Vartak 1976, Lebbie & Gurries, 1995) Studies prove that the spiritual bonding towards the holy river rectifies human misconduct misuse and ignorance towards environment and positively improves its relationship with nature (Alley. K.D. 1994)**.**

Once aware of their duties towards preservance of nature, individuals generally abide by the law to provide a protective and non pollutant environment for natural resources. The holy Ganga provides freshwater to 40% of Indian population and also plays an integral role in crop irrigation (Arnold, 2000).

The rives is of great reverence in day to day human, life where its water is used from offering prayers to washing, cooking, drinking and in various rituals etc. Holy water plays an integral part for every occasion, from washing away one's sins to carrying out cremation ceremonies still people pollute it, block its way, encroach its sanctity by discharge of untreated waste from adjoining cities, dumping of industry waste, building dams and preventing the natural flow of the river (Alley, K.D. 2002).

Researches and graphical representation show that the pollution in the holy river has increased from 10 to 20% in the 21st century as compared to the previous decade. The pollution level has increased to such alarming stage that the risk of gastro intestinal diseases in people living close to it has increased significantly.The decreased water levels and other compounds of pollution due to global warming is also an issue of concern. (Bhargave, D.S. 1987)

Despite, all this, still the river Ganga is viewed in various hindu texts and scriptures as the physical manifestation of Divine Goddess for more than 5,000 Years. Mother Ganga, as it is announced carries such divinity which not only guarantees salvation to living beings but purifies the soul too, and continues to exert a wide range of influence on their lives. (Eck, D.L. 1998).

Rights of a Rivers- To control and keep a check on such insensitivity and to preserve the rights of Holy Ganga, Indian

government has from time to time laid down various projects.

Uttarakhand court gives Ganga / Yamuna rights as Juristic / legal / personal living entity which strengthens the relationship between them and humans. r/w Articles 48-A2 and 5/A (g) 3 of court of India (Mohd. Salim vs state of uttarakhand and other, 2017).

"Save Ganga" project initiated by former P.M.Rajeev Gandhi and revived as the "Namami Ganga" project by present P.M. Sri Narendra Modi concernly works for the preservation of the rights of the river. It is claimed that rights of river = rights of nature as the river is the main cause of existence and survival of flora, fauna and other aquatic life. Any injury or pollution to it is recognised as criminal. Pollutants are hold liable for harming it and compensation is claimed. The intervention of the government preserves the rights of the holy river to exist, thrive, regenerate and evolve.

Implementing The Right :

1. **Parenthood or custodianship-** it supports the theory to admire the holy river as a living entity by owning or adopting it to safeguard its rights and prevent it from polluting through various vulnerable sources.

2. **Restitution-** one effective way is the dismantling of dams which block or divert the free flow of the river, thus changing its basic nature. It aims to the restoration of river Ganga to a healthy state at it was prior to violation.

3. **Restoration-** regenerating catchment areas so that normal water flow is re established Individual and group, especial those who attach a strong spiritual bonding towards the holy river along with the government and non government sector should be empowered to protect and defend the rights of the river in court of law.

4. Effective steps taken towards preserving the hygiene and purity of the holy river extend an affirmation to the rights of people, plants aquatic and terrestrial animals

whose survival largely depends upon it.

5. The empowered groups and custodians should prohibit any activity that interferes with the holy Ganga's rights to survive and flourish.

6. Any damage to the river's rights, any violation should be avoided and used to restore its ecosystem to its predamaged state.

7. Such mechanisms should be enforced which protect / defend and amicably restore the spiritual bonding between the river and the humans.

This draft is promoted by Ganga Action Parivar, a group of professionals leaders, environmental supervision by the central government

A couple of previous research state that the concern towards preserving of natural resources, and the sacred and spiritual bonding towards them drastically reduced the risks of environmental pollutions.

In the case of river Ganga, it plays the role of a Goddess that epitomizes, and is also believed to diminish perceptions of hazards that pollutants can cause it. One of the major challenges of 21st century in preserving the health and hygiene of he holy river could be overcomed to a large extent when the spiritual bonding strengthens. The holy river is not only treated as an element but a living entity which plays a mandatory role in survival of living beings. To remember the importance, rights and work effectively towards its implementation the government of india has started observing the last Sunday of September as "Ganga Day" since 2005.

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Impact of Beedi Rolling on Women Workers' Health: A Case Study of Memari -I, East Bardhaman

•Dr. Anuradha Guha Thakurata

Introduction- Beedi manufacturing is a traditional agro – forest based industry in India, highly intensive and predominately unorganized. The industry employs unskilled labour and is located where there is a availability of cheap labour. The beedi industry is primarily an unorganized sector. Beedi industry is a part of the tobacco industry. Beedi is a poor mans cigarette. "Beedis are cheap and widely smoked in India"[1]. Beedi manufacturing takes place in almost all the major states of India such as in Madhya Pradesh, Chhattisgarh, Bihar, Orissa, Assam, West Bengal, Kerala, Karnataka, Gujarat, Tamil nadu, Maharashtra, Uttar Pradesh, Rajasthan and Andhra Pradesh. The main four steps involved in the production of a beedi are (1) rewinding the thread, (2) cutting the beedi leaves, (3) rolling the beedi and (4) folding the beedi head. "Beedi rolling is one of the major informal sector activites in India."[2] The term was "Informal sector" interpreted in the 19th international conference of labor statisticians, to cover an informal enterprise which is unincorporated, owned by a household, produces for a market, and does not keep a formal setof accounts. The Government estimates that there are about 4.4 million workers in this Industry. The majority are home based workers who live below poverty line. In view of increasing population, unemployment, poverty and illiteracy beedi industry appears to be an easy way of earning a wage.

The Indian market for smoking tobacco is dominated by beedis. A bidi is a leaf rolled cigarette made of course uncured tobacco, tied with a colorful string at one end. "As it is

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a cheap from of tobacco consumption, it is extremely popular amongst the lower economic group. Beedi tarries greater health risks at it delivers more nicotine, carbon monoxide and tar also."[3] Beedi industry is an important cottage industry and provides subsidiary source of livelihood to agriculture laborers. "This industry also has a significant role to the upliftment of socio – economic conditions of the women beedi workers in India."[4]This industry employs thousands of people most of who work under conditions which are harmful to their health. It is significant to note that majority of the workers in some places as high as 90% are women. The reason for this is, Firstly, the work is simple, secondly, the work is done generally at home and women can do it simultaneously while attending their children and also while doing other domestic household activities. Thirdly, their deft fingers are more suitable for beedi rolling work. Fourthly, women are sincere and hardworking. It also involves substantial expenditure on premises for the work and payment of wages are minimum but regularly and easily accessible.

Brief Review of Literature- Burman and Iti (july, 2018), analyze the nature and major problems of Beedi Industry. They also analyze the socio-economic condition of beedi workers engaged in beedi rolling at Murshidabad district, West Bengal. According to them "The wages provided to beedi rolling is very low as compared to minimum wages."[5]

Rupali V. Sabale et.al described the health problems of beedi workers. They analyzed the working condition and health hazards in beedi rollers residing in the urban slums at Mumbai. According to them "Around 48.08% had started beedi rolling at the age of 11 to 15 years and 42.31% were illiterate."[6]

According to Sarah Khan (31st Aug, 2020) "Poor marginalized women rolling workers face acute exploitation. These poor women workers about five million in number barely earn Rs 20 per 500 beedis and suffer various health problem including breathing difficulties, joint paid as and fading finger points."[7]

According to Pallavi Puri (18th march, 2020), "Every year between 750 billion and 1 trillion beedi sticks are smoked

in India by nearly 8 percent of the population, which makes beedis twice as popular as cigarettes."[8]

Madhamima Mukherjee et.al (Aug, 2014), have conducted a study on health profile of beedi workers in West Bengal. The study revealed that most of the beedi workers were women and they were economically weak without having education. According to them "Most of them were suffered from health related disorders few of them suffered from tuberculosis and lung cancer which are caused due to over exposure to the harmful tobacco dust."[9]

Objectives- The main objectives of this paper are –
1. To identify the problems of the beedi workers.
2. To analyze the socio – economic condition of the workers engaged in beedi rolling.
3. To study working condition and health hazard among beedi rollers in the Memari Block -I of East Bardhaman district.

Methodology- Descriptive Cross – sectioned community based study was carried in the rural area of Memari – I block. This study is based on primary data. Total 153 beedi women workers who are engaged with beedi rolling were interviewed. Structured questionnaire schedule was used to obtain information related to their socio economic conduction, education and health status. Total 153 women workers who are engaged with beedi rolling were randomly interviewed. Around 15 – 20 minutes time was taken to interview each sample. Survey was mainly conducted in Parijatnagar village of Memari – I block under East Bardhaman district West Bengal.

Selection of the Area- The survey was conducted in Parijatnagar village which is under Hingalganj mouza of Memari – I block, East Bardhaman West Bengal. In this village more than 80% female population are engaged in beedi rolling. This is totally hindu dominated village. This village is located about 2 km west from Memari station, East Bardhaman. Parijatnagar village is surrounded by Sultanpur and Utkedanga village in the east, Maheshdemga camp area in the west Kenna village the north and Kharo village in the south. This village is under Nimo gram panchayet area.

Finding of the Study- Beedi are smoked primarily by men and are rolled primarily by men and are rolled primarily by women often in their homes. According to conservative estimate more than 6 million persons are engaged in Beedi making processing and allied work Beedi workers are vulnerable segments of the country's labour force which has increased involvement of women and child labour in Beedi rolling activities. In the surveyed area all 153 women sample workers are Hindu and 95% of them are belongs to schedule caste categories while 3% are scheduled tribes and rest are under general category. (Table – 1)

Table 01
Caste structure of sample workers

Category	No. of sample workers	% of sample workers
S.C	145	95.0
S.T	5	3.0
General	3	2.0

Source – Personal survey, 2020-21

Out of 153 sample women workers who are engaged in beedi rolling activity 22.5% workers are under the age group of 25-30 years while 24.0% are at the age group of 30-35 years. Maximum percentage (35.5%) of the sample women workers are under the age group of 35 years to 40 years. Percentage of women workers above the age group of 40 years are minor in percentage (7.4%). About 10.6 % women are younger within the age group of below of 25 years. (Table – 2)

Table 02
Age Structure

Age Group	No. of Sample workers	% of sample workers
< 25	16	10.6
25 – 30	34	22.5
30 – 35	37	24.0
35 – 40	54	35.5
>40	12	7.4

Source: Personal survey, 2020 – 21

In the surveyed area 95% people are migrated people. Most of them came from Bangladesh. Educational status of surveyed women reveals the fact that out of 153 sample women 40.5% were illiterate while 23.0% women are primary educated 15.5% have up to middle class (VIII class) education only 9.5%

women have up to secondary level (up to class X) education while 6.5% women passed higher secondary level. Percentage of graduate women are very minor in percentage (5.0%) (Table – 3)

Table 03
Educational structure

Category	No. of Sample workers	% of sample workers
Illiterate	62	40.5
Primary educated	35	23.0
Up to Middle Class (VIII)	24	15.5
Secondary (up to X)	14	9.5
Higher Secondary	10	6.5
Graduation	8	5.0

Source: Personal survey, 2020 – 21

Out of 153 sample workers 31.3% are unmarried and 6.5% are widow. Total 57.2% women are married while 5% are living as a single women due to marital disturbance (Table – 4)

Table 04
Marital Status

Category	No. of sample workers	% of sample workers
Unmarried	48	31.3
Married	87	57.2
Widow	10	6.5
Single women	8	5.0

Source: Personal survey, 2020 - 21

"As per the International Labour Organization (ILO) the Indian government estimates 4.5 million beedi workers in India, majority of who are home based women workers. Another study claims that apart from poor women, more than 1.7 million children are involved in beedi rolling in the country."[10] In the surveyed area out of 153 sample women 28.5% women are rolled beedis for 10 years while 36.4% women are rolled beedis for last 15 years and so long. Daily 17.3% women are rolled beedis for last 5 years back while 10.4% women just started their job during COVID to increase family income (Table – 5)

Table 05
Working Experience

Time Period (year)	No. of sample women	% of sample women
< 5	16	10.4
5 – 10	26	17.3
10 – 15	44	28.5
15 - 20	56	36.4
>20	11	7.4

Source – Personal survey, 2020-21

The monthly income of these sample women depends on the number of the rolled beedis. On an average at present women are getting rupees one hundred forty seven (Rs. 147/-) only for thousand beedi rolling. In the surveyed are 56.5% women rolled on an average 500 beedies per day while 29.2% women rolled on an average thousand beedis per day. Most of them are younger in age. These are 12.5% women who are suffering from acute back pain and rolled beedis occasionally. On an average at present they can rolled below 500 beedis per day. Only 7.5% women are engaged most of the time in beedi rolling and are able to rolled more than 1500 beedis in a day while 5% women rolled on an average 2000 beedis per day (Table – 6).

Table 06
Average per day Income

Average Number of Beedi rolled	Per day average Income in Rs /-	No of working women	% of sample women
< 500	< 74	19	12.5
500 – 1000	74 – 147	70	45.8
1000 – 1500	147 – 221	45	29.2
1500 – 2000	221 – 295	11	7.5
>2000	>295	8	5.0

Source – Personal survey, 2020-21

"There are several studies on the socio-economic conditions of beedi workers and their problems in the Indian subcontinent. These studies have brought out the problems in availing the benefits of social security measures – weakly holidays, provision for annual leave, maturity leave for women workers sick leave and medical benefits. Further, they have highlighted the status of living conditions, poverty, indebtedness and sexual exploitation."[11]

According to trade unions, "The majority of beedi workers do not have ID cards, while the government estimates that only about 15 percent of beedi workers do not have ID cards. For families engage in beedi production, the stranded practice is to issue an ID card to only one number of the family even when other members of the family also roll beedis. On an average in the surveyed area out of 153 sample workers 22.8% women workers have ID cards and got facilities like scholarship

for their children, loan for building construction and relaxation in health related treatment cost (Table – 7).

Table 07
ID Card Holders

Whether ID Card Holder	No. of sample women	% of sample women
Yes	35	22.8
No	118	77.2

Source – Personal survey, 2020-21

To make beedis, tendu leaf is first soaked in water and then dried. This is followed by the cutting of leaf, filling it with tobacco dust and rolling. This activity is related to a large number of health problems, such as chest pain, breathing difficulty, leg and back pain, tuberculosis, asthmas, anemia etc. "Beedi rollers are exposed to tobacco dust and hazardous chemicals. They experience exacerbation of tuberculosis, asthma, anemia, giddiness, postural and eye problems and gynecological difficulties."[13] For an experienced beedi maker, it takes only 320 seconds to complete a beedi. That means it may approximately take an hour to prepare 120 beedis, So on an average women spend 5 to 6 hours of a day for rolling 500 – 600 beedis. The nature of work of beedi rollers involves prolonged sitting with the trunk bent forward and the exposed to unburned tobacco dust through coetaneous and pharyngeal route and it is extremely harmful to the body since it is carcinogenic in nature and can cause cancer during long exposure. Mainly two factors that cause health hazards are first, the raw materials especially tobacco and secondly, the nature of work, working conditions and the workplace constant exposure to tobacco dust results in respiratory irritation. Tuberculosis and bronchial asthma among beedi rollers are mainly due to the dust they inhale. Sitting for long hours causes back and neck aches, joint pain as well as arthritis and gynecological problems. "It is observed that the incidence of back pain is the highest among the girl children who roll beedis. This is because beedi rolling involves long hours of sitting in a cramped posture in consigned spaces. Leading to immense strain on the vertebral column."[14]

The table 8 revealed that in the surveyed area out of 153 sample beedi roller women 3.5% are suffering from tuberculosis,

15.5% are suffering from Oral disease while 12.5% are suffering from ulcers. Only 68.5% of the respondents replied that they did not suffer from any disease. A majority (55.5%) of the respondents replied that they suffer from respiratory disorders. A majority (58.0%) of respondents had callosity on their hands. Majority of the respondent (54.8%) also said that they experienced frequent numbness in their fingers while the rest 45.2% did not. Most of the respondents (57.5%) suffered from piles or pain in the urinary teach while 10.5% sample women workers have high incidence of pregnancy problems. On an average 46.5% of the respondents replied that they are suffering from irregular menstruation and remaining 53.5% had normal menstruation. In the surveyed area on an average 55.8% are suffering from high blood pressure 30.2% are suffering from low blood pressure compared to only 14% having normal blood pressure. A vast majority (62.5%) suffered from chromic headaches and rest (37.5%) did not get chromic headaches. (Table – 8)

Table 08
Health Profile of the women Beedi sample workers

Variables	Types	No. of sample workers	% of women workers
Suffer from disease	Tuberculosis	5	3.5
	Oral disease	24	15.5
	Ulcer's	19	12.5
	None	105	68.5
Suffer from respiratory disorders	Yes	85	55.5
	No	68	44.5
Pregnancy Problem	Yes	16	10.5
	No	137	89.5
Callosities	Yes	89	58.0
	No	64	42.0
Numbness in Finger	Yes	84	54.8
	No	69	45.2
Fatigue in arms	Yes	88	57.5
	No	65	42.5
Piles or pain in Urinary tract	Yes	32	20.8
	No	121	79.2
Blood pressure	High	85	55.8
	Low	46	30.2
	Normal	22	14.0
Suffer from chromic head aches	Yes	96	62.5
	No	57	37.5
Regular cough	Yes	91	59.8
	No	62	40.2
Suffering from back pain	Yes	105	68.5
	No	48	31.5
Suffering from irregular menstruation	Yes	71	46.5
	No	82	53.5

Source – Personal survey, 2020-21

Suggestions- Following are some of the suggestions to improve the living condition of the beedi women workers in the surveyed area.

1. The wages provided to beedi rollers is very low as compared to minimum wages (147/- for 1000 beedis). They spend their entire day in rolling the beedi which is very time consuming and tiring work, for which the payment made is very low, this should be monitored by the state government.

2. The beedi rollers are in the clutches of the contractors. These contractors exploit the workers, so the work of the contractors should be redefined and should be made responsible for the protection of the workers. Contractors should be identified by the employer and regularized so that irregularities in payments made by the contractors can be controlled.

3. Women beedi rollers should get all the maternity benefits and allowances.

4. The state government should take appropriates measures to curb child labour which is predominant in this area as they help their mother in free time.

5. The employer must be identified and employer and employee relationship should be established.

6. Each and every beedi women worker should be identified in a family and provided separate beedi ID card which will help them to avail facilities in a better manner. Usually only one single person in the family holds ID card and rest of the members do not have ID cards.

7. The beedi rollers should have regular health check up in nearby government hospitals.

8. Beedi rollers themselves should be aware of their rights, that is, minimum ways the facilities they can avail from the central or the state government, what all medical facilities they are eligible for, what criteria they are supported to fulfill to get identify card.

9. The younger generation should be provided education,

which will in turn will give them confidence in getting into some other profession and explore new opportunities. The education should be completed at least till class XII.

Conclusion- The present study clearly described that most of the beedi women workers were economically weak and many of them had no education or lack of education. The beedi workers suffered from a number of health related disorders Back pain, irregular menstruation Fatigue in arms numbness in finger, chronic head aches, regular cough, pain in urinary tracts were common problem faced by a vast majority of beedi workers.

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Suggestions- Following are some of the suggestions to improve the living condition of the beedi women workers in the surveyed area.

1. The wages provided to beedi rollers is very low as compared to minimum wages (147/- for 1000 beedis). They spend their entire day in rolling the beedi which is very time consuming and tiring work, for which the payment made is very low, this should be monitored by the state government.

2. The beedi rollers are in the clutches of the contractors. These contractors exploit the workers, so the work of the contractors should be redefined and should be made responsible for the protection of the workers.

    Contractors should be identified by the employer and regularized so that irregularities in payments made by the contractors can be controlled.

3. Women beedi rollers should get all the maternity benefits and allowances.

4. The state government should take appropriates measures to curb child labour which is predominant in this area as they help their mother in free time.

5. The employer must be identified and employer and employee relationship should be established.

6. Each and every beedi women worker should be identified in a family and provided separate beedi ID card which will help them to avail facilities in a better manner. Usually only one single person in the family holds ID card and rest of the members do not have ID cards.

7. The beedi rollers should have regular health check up in nearby government hospitals.

8. Beedi rollers themselves should be aware of their rights, that is, minimum ways the facilities they can avail from the central or the state government, what all medical facilities they are eligible for, what criteria they are supported to fulfill to get identify card.

9. The younger generation should be provided education, which will in turn will give them confidence in getting into some other profession and explore new opportunities. The education should be completed at least till class XII.

Conclusion- The present study clearly described that most of the beedi women workers were economically weak and many of them had no education or lack of education. The beedi workers suffered from a number of health related disorders Back pain, irregular menstruation Fatigue in arms numbness in finger, chronic head aches, regular cough, pain in urinary tracts were common problem faced by a vast majority of beedi workers.

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Psycho-Socio Consequences of Social Change and Women's Development in The 21st Century in India

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••**Dr. Veena**

Introduction- The fact that the women, who take part in the liberation movement do not represent one homogenous mass is clear to every unbiased observer. The women's social perspective is divided, just as the social perspective of men into two camps, the interests and aspirations of one group of women bring it close to the bourgeois class while the other group has close connections with the proletariat and it claims for liberation encompass a full solution to the women social perspective. Thus although both camps follow the general slogans of the "Liberations of women", their aims and interests are different. Each of the groups unconsciously takes its starting point from the interests of its own class, which gives a specific class colouring to the targets and tasks it sets for itself. Though apparently radical the demands of the feminists, ine must not lose sight of the fact that the feminist cannot, on account of their class position fight for the fundamental transformation of the contemporary economic and social structure of society without which the liberation of women cannot be complete.

If in certain circumstances, the short- term task of women of all classes coincide, the final aims of the two camps which in the long term determine the direction of the movement and the tactics to be used, differ sharply. While for the feminists the achievement of equal rights with men in the framework of

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the contemporary capitalist world represents a sufficiently concrete and in itself equal rights at the present time are for the proletarian women, only a means of advancing the struggle against the economic slavery of the working class. Feminists, see mean as the main enemy, for men have unjustly seized all rights and privileges for themselves, leaving women only in chains and duties. For them a victory is won when a prerogative previously enjoyed exclusively by the male sex is conceded to the "Fair Sex". Proletarian women have a different attitude. They do not see men as the enemy and the oppressor; on the contrary, they think of men as their comrades, who share with them the drudgery of the daily round and fight with them for a better future. The women and her male comrade are enslaved by the same social conditions; the same hated chains of capitalism oppress their will and deprive them of the joys and charms of life. It is true that several specific aspects of the contemporary system lie with the double weight upon women, as it is also true that the conditions of hired labour sometimes turn working women into competitors and rivals to men. But in these unfavorable situations, the working class knows who is guilty. The proletarian women's final aim does not. Of course, prevent them from desiring to improve their status even within the framework of the current bourgeois system, but the realization of these desires is constantly hindered by obstacles that desire from the very nature of capitalism. Women can possess equal rights and be truly free only in a world of socialised labour of harmony and justice. The feminists are unwilling and incapable of understanding this; it seems to them that when equality is formally accepted by the letter of the law they will be able to win a comfortable place for themselves in the old world of oppression, enslavement and bondage of tears and hardship.

Struggle for Rights- The feminists declare themselves to be on the side of social reform and some of them even say they are in favour of socialism in the far distant future, of course but they are not intending to struggle in the ranks of the realization of these aims. The best of them believe with a naïve sincerity that once the deputy seats are within their reach they will be able to cure the social sores, which have in their view developed

because if men, with their interest egoism have been masters of the situation. However good the intentions of individual groups of feminists towards the proletariat, whenever the question of class struggle has been posed they have left the battle field in a fright. They find that they do not wish to interfere in alien causes, and prefer to retire to their bourgeois liberalism which is so comfortably familiar.

Now, however much the bourgeois feminists try to repress the true aim of their political desires, however much they assure their younger sisters that involvement in political life promises immeasurable benefits for the women of the working class, the bourgeois spirit that pervades the whole feminist movement gives a class colouring even to the demand for equal political rights with men, which would seem to be a general women's demand. Different aims and understandings of how political rights are to be used create an unbridgeable gulf between bourgeois and proletarian women. This does not contradict the fact that the immediate tasks of the two groups of women coincide to a certain degree. For the representatives of all classes, which have received access to political power strive above all to achieve a review of the Civil Code which in every country to a greater or lesser extent discriminates against women. Women press for legal changes that create more favourable conditions of labour for themselves; they stand together against the regulations against atrocities of women.

Class instinct- whatever the feminists say- always shows itself to be more powerful than the noble enthusiasms of "above class" politics. So, as long as the bourgeois women as their "younger sisters" are equal in their inequality, the former can, with complete sincerity, make great efforts to defend the general interests of women. But one the barrier is down and the bourgeois women have received access to political activity the recent defenders of the privileges of their class content to leave the younger sisters with no rights at all. Thus, when the feminists talk to working women about the need for a common struggle to realize some "general women's" principle women of the working class are naturally distrustful.

Women and Households in A Social Changing Scenario- The

goal of development is material and non-material betterment for all people. Development implies change, but changes which do not ensure that the household, the basic social unit, and all individuals, who are the basic social unit, and all individuals, who are part of it share in this betterment are not development. It is therefore essential to assess development by looking at changes that affect the household. Households are constituted as a means of meeting the basic material and non-material needs of their members. The way they function is obviously affected by their different forms, internal organization, and external relationships. Changes in the structure of the household brought by broader social and economic policies and events may affect its ability to meet these needs, which made themselves be altered and to maintain its underlying values, especially in periods of rapid change.

In their capacity as careers and domestic managers, women play a very important role in enabling its household to adapt to change. Research has clearly shown that there coping strategies have been a major factor in adjustment in the face of the economic crisis of the past and previous times period indeed, economic and social change cannot be properly understood unless more is known about the situation of women, their role in households, and the impact of change on them. Tracing this impact through its effect on women offer important insights into the way the primary living unit works and highlights points of which intervention to support it might be necessary. The household is thus a sensitive point of intervention for the implementation of positive change. As the micro unit of reproduction, production, consumption, and socialization, it is not only where the real effect of macro-level policies can be best assessed- it may hold a key to their success. This is where the gender relations and social stereotypes that influence macro level events are worked out in practical terms. Where the flow and allocation of resources can determine levels of consumption savings and investment and labour force participation which are critical to economic growth, where the extent of its dependence on the scars resources of the state will be based on its capacity to meet its members needs.

Determinants and Characteristic of Social Role- Roles may be achieved or ascribed. And achieved role is a position that a person assumes, voluntarily, which reflects portion of skills, abilities and effort. And describe role is the position assigned to individual or groups without regard for merit but because of certain trait beyond their control and is usually forced upon a person. For many roles, individual must meet certain conditions, biological or sociological. Per instant karma a boil cannot take the biological role of mother. Other roles required training or experience. For instant in many cultures and societies world development can be influenced by number of additional factors including social, genetic, pre disposition, cultural or situational.

Societal influence- the structure of society often forms individuals into certain role based on the social situations they choose to experience. Parents enrolling their children in certain programs at a young age increases the chance that child will follow that rule.

Genetic Predisposition- People take on roles that come naturally to them. Those with athletic ability generally take on roles of athletes. Those with mental genius often take on roles devoted to education and knowledge. This does not mean that people must chose only one path, multiple roles can be taken on by each individual (i.e. Mark can be the point guard on the basketball team and the editor of his school newspaper).

Cultural influence- Different cultures place different values on certain roles based on their lifestyle. For instance, soccer players are regarded higher in other countries.

Situational influence- Roles can be created or altered based on the situation a person is put in outside their own influence. Roles are also frequently interconnected in a role set, that complement of role-relationships in which persons are involved by virtues of occupying a particular social status. For example, a high school football player carries the role of student, athlete, classmate, etc.

Women's Literacy and Social Change- Within the Indian context, while education is generally valued, living circumstances often decide it's availability and use. For example, women living in Indian Villages, reported not being as concerned about being literate prior to their move to urban

surroundings. They explained that in villages being literate was not crucial to their everyday existence. Awareness of the connections between Power and Literacy, Literacy and Change were not in their conscious. Self determined literacy begins with an agenda. A list of needs to be met, lacks to be remedied lie at the start of an independent process. This list is drawn up from the experiences of learners. For example, in one community, women had wanted to write a petition to the Police, protesting the presence of illegal liquor dens within their community. One of the leaders of this group of women used this opportunity to effectively demonstrate the importance of being illiterate, when they could not write the petition, much less sign one written for them. These needs then get translated into a list of goals, such as signing names, learning about Petitions (their existence), legal rights, riding buses, calculating interest on loan's and reading religious books. The other side of this coin almost always contains a list of skills deemed necessary for complete and fulfilling human existence, "the necessary foundation for a higher quality of life". To be poor therefore is alright, it is an honourable thing, but to be illiterate is to be invisible, non- human. The language of literacy continues to be negative, accusatory, devaluing the personhood of individuals on the basis of the lack of certain skills considered vital for decent human existence. This line of negative thinking appears to have been adopted internationally among researchers and learners. Non-literate people appear to reflect these academic descriptions of themselves and their lives. Women in particular tend to perceive themselves as "empty pots", "hollow boxes". They do not see themselves as fully, participating, contributing members of society. The fault (according to them) is theirs since they are in the unenviable position of being illiterate.

Consequences of Successful Campaigns- The success of literacy campaigns is judged by their consequences. All the planning and development that has gone into the campaign is deemed effective only when participants turn around and realise that their goals have been accomplished, whether in part or in totality. Results sought include almost complete literacy

within a community, changed perceptions of self, resolution of solid problems and financial independence. In the four cases studied, women across all the communities had some experiences in common. They all mentioned the discovery of a personal voice. They described a change in self-confidence and a new vision in their life in their cities. To use an often repeated expression, it was as if for the first time, they would see. They said it was a pleasure to move around without having to constantly ask people for help. Some women said it was a secret pleasure that brought smiles to their faces, when after years of asking for help, they would do certain things like boarding a bus or counting exact change confidently. Women said they had almost no use for writing. Hence they were unwilling to invest more time perfecting it. Some mentioned the fact that since they used reading a lot, they tended to persevere in its mastery. They had learned to sign their names, which was the most important task for them. Being able to read petitions was very important to be aware exactly, when they were signing. By their own logic, they seemed to have found justification for not spending too much time or effort in perfecting their writing skills. To conclude, successful campaigns result in greater awareness (political and personal), increased self-confidence and assertiveness, realistic expectations from literacy, changed socialization practices and decisive action for maintenance of implemented social change.

Participation and Representation of Women in India-Women in India have lesser opportunities of public influence, women also lack opportunities to move within the hierarchies without patronage of male leaders or mentors. The women's wings of political parties may have given visibility to women in the form of a platform for participation rather than integrating them into central power structures. Women do not have necessary resources to enter and compete in contemporary political arena. This improved social indicators in development graphs may not be automatically ease women's access to political power or improve political participation and representation. They do not necessarily translate into collective gains nor sustained political power. Of course the scope for

women's public activism varies across class, and region in India. The effectiveness of women's participation also depends on the local configuration of power and cultural environment apart from problems of poverty, illiteracy, lack of economic resources, negative social and legal environments, family and household pressures, male dominated bureaucracy and politicians that the women face.

Conclusion- Women's historic exclusion from political structures and processes is the result of multiple structural, functional and personal factors that vary in different social contexts across countries, However , beyond these specificities of national and local contexts, there is a generic issue in women's political participation that relates to the wider context of national and international politics, liberal democracy and development. Women's mere participation in mainstream Development cannot automatically lead to their advancement and gender equality unless the contradiction in the development claim for equality and justice and the practices eliminated. There is certainly a need for women's more effective role in decision making processes for the democratic and constitutional assurances of equal citizenship end rights in the Indian constitution to become a reality at the operational level. Citizenship is linked to political participation and representation, in other words, psycho-socio consequences of social change and women's development in the 21st century in India can be assessed by socio-economic growth of girl child and woman in the society. Social change is linked to girl child's and women's overall development, then only the society can grow and nation can develop. Girl child and women's development is essential for the growth of healthy society.

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Prevalence of Suicide in Adolescent and Family Factors: A Psychological Emergency in India

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It is very unique to India, is that suicide rate peak in young people in comparison to China, where suicide actually peaks in old age. Roughly 75% of female suicide takes place before the age of 30. Suicide is the number one cause of death in young Indians more than any infectious or cardiac conditions (Nair.S,2020). Now a days suicide in adolescents in Indian setup become a psychological emergency. Suicide is death caused by self-directed injurious behavior with any intent to die as a result of the behavior (Kaslowet al, 2014).Suicide is derived from the Latin word for "self-murder." It is a fatal act that represents the person's wish to die. The World Health Organization (WHO, 2014) defines suicide as the act of deliberately killing oneself . This definition underlines that the death is caused by a deliberate act, thereby separating suicide from accidents and it also defines suicide attempt as any non-fatal suicidal behaviour, such as intentional self-inflicted poisoning, injury, or self-harm, which may or may not have a fatal intent or outcome. There is a range, however, between thinking about suicide and acting it out. Today in India as well as on broad level over the world, suicide is the primary emergency, with homicide and failure to diagnose an underlying potentially fatal illness representing other, less common psychiatric emergencies. Suicidal ideation is the thoughts and feelings one holds regarding suicide. It can range from a vague wish to be dead to a strong, active suicidal ideation

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with a plan and intent. Suicide is the 3rdmost leading cause of death among young people around the ages 10-24. Among these, although it is found that girls attempt suicide more than boys, it is more likely for boys to die from suicide than for girls. As per the World Health Organization data, every 30 seconds a life is lost through suicide (WHO, 2014). In India, the age standardized suicide rates for women places us 6th highest and for men, we rank 22nd in the worldwide WHO statistics (WHO, 2012).Suicide is among the top 10 causes of death in India and most other countries. The official suicide rate in India in 2008 was 10.8/100,000 population/year (9.7 in 1995; 6.3 in 1980). In 2000, the rate in men was 12.2/100,000 and in women 9.1/100,000) with an overall male to female ratio of 64:36 in 2008 (NCRB).In India, the highest suicide rate is in the age group of 15-29 year. On further analysis of regional trends, we see that Southern states of India, like Kerala, Karnataka, Andhra Pradesh, Tamil Nadu and the Eastern state West Bengal show a high suicide rate of about 16 per 1000,000 when compared to Northern States where the rate is less than 4. In the year of 2012, Chennai (Tamil Nadu) reported the highest total number of suicides while cities Jabalpur (Madhya Pradesh) and Kollam (Kerala) reported the highest suicide rates of 45.1 and 40.5 per 100.000 people respectively, which is 4 times higher than the national average suicide rate (NCRBI, 2014). Among young adults and adolescence, suicide ranks 3rd in leading causes of death (Mojs et al; 2012; Singh & Joshi, 2008). Adolescents are age group between 10-19 years . India has the largest population that contribute to 21%. Risk for attempted suicide increase markedly in adolescence (Radhakrishnan& Andrade, 2012). In India it is the leading cause of adolescents death (Kumar et al,2013). In India , the suicide attempts and suicidal ideation prevalence were ranged from 4-12.9 % and 11.7-25.7% (Nath et al,2012). Suicides is a contingency that affects the victim's family community and nation at largeand has a long lasting effect on the people left behind. The adolescents often don't get help when neededwhich leads to suicides.Despite being completely preventable, suicide rates continue to hike. This is why there is an increasing need to analyze the causes that lead people to suicide.

Prevalence/ Incidence rate of Suicide in India(An Alarming Stage)- Data related to suicide incidences across India. National Crime Record Bureau (NCRB) which functions under the Ministry of Home Affairs, Government of India . NCRB publishes year wise chronological data on accidental deaths and suicides from the year 1969 onwards. Following data on suicide for a period of 49 years (1969–2018) from NCRB annual reports on Accidental Deaths and Suicides in India (ADSI), is available at https://ncrb.gov.in/en/adsi-reports-of-previous-years.

Table 01
Data related to suicide incidences across India
(Socio demographic characteristics)

Variables	Year 1969-1978	1979-1988	1989-1998	1999-2008	2009-2018
Total	43038	49201	85265	114233	1331033
Gender					
Male			50160	71849	88180
Female			35105	42384	44923
			(41.2)	(37.1)	(33.8)
Age Group(in years)					
upto 14			6929	2815 (2.5)	4563 (3.4)
15to 29			35426	40785	47376
30to44			27561	38811	43969
45to60			12711	22878	26293
60andabove			6596 (7.7)	8944 (7.8)	10903 (8.2)
Education$					
No Education			27276	26988	21628
Primary(upto class-5th)			26310 (30.9)	29245 (25.6)	27590 (20.7)
Middle(up to class-8th)			21659 (25.4)	27346 (23.9)	28765 (21.6)
Matriculate/Secondary(up to class-10th)			14894 (17.5)	19711 (17.3)	27978 (21.0)
Hr. Secondary/Intermediate/Pre-University (up to class-12th)			6501 (7.6)	8876 (7.8)	15598 (11.7)
Diploma/Certificate/ITI			1001 (1.2)	1028 (0.9)	1552 (1.2)
Graduate/degree			1669	2176(1.9)	4022 (3.0)
PG/Professionals (MBA etc.)			584 (0.7)	520 (0.5)	604 (0.5)
Status Not Known			0	0	10300 (7.7)
Profession$					
Housewife			19695 (23.1)	23410 (20.5)	22779 (17.1)

Professionals/Salaried Persons			11055 (13.0)	13326 (11.7)	13206 (9.9)
Students			5410 (6.3)	5690 (5.0)	8346 (6.3)
Unemployed Persons			8263 (9.7)	9463 (8.3)	10624 (8.0)
Self-employed Persons			34279 (40.2)	45848 (40.1)	37846 (28.4)
Retired Persons			741 (0.9)	923 (0.8)	977 (0.7)
Other			12703 (14.9)	15290 (13.4)	37473 (28.2)
Social Status$					
Un-Married			23094 (27.1)	25010 (21.9)	29748
Married			65840 (77.2)	81326 (71.2)	91864
Widowed/Widower			5481 (6.4)	5198 (4.6)	3589 (2.7)
Divorcee			1612 (1.9)	1238(1.1)	1142 (0.9)
Separated			3816 (4.5)	3117(2.7)	2134 (1.6)
Others			0	0	3852 (2.9)
Status not known			0	0	5126 (3.9)
Means					
Consuming Sleeping Pills			572 (0.7)	965 (0.8)	432 (0.3)
Drowning			8565 (10.0)	8275 (7.2)	7352 (5.5)
Fire/Self Immolation			8915 (10.5)	10509 (9.2)	9750 (7.3)
Firearms			612 (0.7)	528 (0.5)	506 (0.4)
Hanging			21056 (24.7)	21056 (18.4)	54149
Poison			30052 (35.2)	42053 (36.8)	38617
Self-inflicting Injury			572 (0.7)	454 (0.4)	638 (0.5)
Jumping			1206 (1.4)	1895(1.7)	2189 (1.6)
Coming under Running vehicles			2991 (3.5)	3557 (3.1)	3894 (2.9)
By Touching Electric Wire			632 (0.7)	861 (0.8)	832 (0.6)
By Other Means			10093 (11.8)	11342 (9.9)	14259
Family Problems			12355 (14.5)	26217 (23.0)	34173 (25.7)
Illness			15387 (18.0)	25161 (22.0)	24639
Marriage Related Issues			2220 (2.6)	3819(3.3)	6252 (4.7)
Drug Abuse/Alcoholic Addiction			1012 (1.2)	1875(1.4)	4496 (3.4)
Love Affairs			4017 (4.7)	3563 (3.1)	4447 (3.3)
Bankruptcy or Indebtedness			1387	2945 (2.6)	3438 (2.6)
Other			49505 (58.1)	50653 (44.3)	53949 (40.5)
Data was available from 1995 onwards.					
https://doi.org/10.1371/journal.pone.0255342.t001					

From above table it was apparent that in 1999-2008 and 2009-18, incidence of suicide in female is 37.10% and 33.7% respectively. Incidence of suicide is more in the age range of 15-29 yrs(35.70% and 35.59% respectively).Incidence of suicide is more in persons who are educated upto middle class(41.2% and 42.6% respectively), in regard to social status more prevailing in the married (71.2% and 69% respectively), more in those who are housewives(20.5% and 17.1%) or self employed(40.1% and 28.4%). most of the common means of suicide are hanging and poison.

Table 02
Trends of suicide rates in different states/UTs of India over last 3 decades.

States/UTs	Average Decadal Suicidal Rate			Percent change in	Percent Decadal
	1989-1998	1999-2008	2009-2018	First two Decade	Last two Decade
Puducherry	63.18	52.99	40.07	-16.13	-24.38
Andaman & Nicobar	39.82	34.9	31.61	-12.36	-9.43
Kerala	26.75	28.22	23.73	5.5	-15.91
D&N Haveli	23.58	22.63	19.15	-4.03	-15.38
Goa	19.65	18.86	16.72	-4.02	-11.35
Tripura	19.2	23.46	20.23	22.19	-13.77
Karnataka	19.1	22.32	19.08	16.86	-14.52
West Bengal	17.85	16.98	15.48	-4.87	-8.83
Tamil Nadu	15.52	19.14	22.3	23.32	16.51
Maharashtra	12.34	14.61	14.21	18.4	-2.74
Sikkim	11.83	21.53	35.4	81.99	64.42
Daman	11.2	10.59	11.46	-5.45	8.22
Assam	10.53	9.97	9.41	-5.32	-5.62
Andhra Pradesh	10.21	##########	14.39	53.67	-8.29
Madhya Pradesh	9.91	##########	13.18	8.68	22.38
Odisha	9.35	##########	10.82	18.93	-2.7
Delhi	8.54	8.11	10.2	-5.04	25.77
Gujarat	8.17	9.59	11.4	17.38	18.87
Chandigarh	7.86	8.44	7.99	7.38	-5.33
Haryana	7.5	10.25	12.12	36.67	18.24
Arunachal Pradesh	6.23	7.81	9.75	25.36	24.84
Rajasthan	5.25	6.53	6.21	24.38	-4.9
Mizoram	4.29	5.4	8.86	25.87	64.07
Himachal Pradesh	3.55	6.13	8.29	72.68	35.24
Meghalaya	3.42	2.83	6.94	-17.25	145.23

Uttar Pradesh	2.82	2.26	2.03	-19.86	-10.18
Punjab	2.6	2.94	3.97	13.08	35.03
Nagaland	2.12	1.43	1.27	-32.55	-11.19
Manipur	1.67	1.35	1.46	-19.16	8.15
Bihar	1.42	0.85	0.74	-40.14	-12.94
Jammu &Kashmir	0.74	1.72	2.51	132.43	45.93
Lakshadweep	0.52	1.06	2.61	103.85	146.23
Uttarakhand	*NA*	3.26	3.2	*NA*	-1.84
Chhattisgarh	*NA*	19.97	24.52	*NA*	22.78
Jharkhand	*NA*	2.18	3.71	*NA*	70.18
Telangana	*NA*	*NA*	24.12	*NA*	*NA*
https://doi.org/10.1371/journal.pone.0255342.t002					

Source: Swain et al,2021

Above table shows the trends of suicide rates in different states/UTs. Data revelas that in some states like Tamil Nadu, Sikkim, Daman & Diu, Madhya Pradesh, Delhi, Gujrat, Punjab, Haryana, Mizoram, Meghalaya, Manipur, Jharkhand with an increased decadal growth rate of suicide. Rates of suicide in small states show a major trend with an increased rate of suicide.

Suicidal Ideation and Family- It is an issues which is investigated by many researchers that can family play any role in suicide or not? If yes than in which way?. In this paper we focused on the facts which shows that family plays a significant role in the suicide,in a causative as well as protective way. The mechanism depends upon the nature of family cohesion, its dynamics and quality. The family serves as a protective factor that provides a strong support for the individual, but alternately creates an inseparable individual when seeking mental health care, which often complicates the situation. Due to the stigma, Indians typically perceive having a mental illness as shameful. Religion is integral to the Indian culture so much so that individuals often use herbal remedies, seek help from religious leaders, and attend religious establishments prior to obtaining a mental health evaluation in those that are subsequently deemed

as mentally ill. Despite the fact that suicides are underreported and misdiagnosed in India, it is known that the highest rates are among those <30 years old (Samuel & Sher,2013).When suicidal behaviour occurs, it must be considered as an indication that the strain on the individual is exceeding his or her capability to cope with the situation. The diathesis–stress model can be used as a framework for understanding suicidal impulses and suicidal behaviour. In 2003, van Heeringen presented a slightly modified version of the diathesis–stress model related to suicidal behaviour . The model suggests that suicidal behaviour might be explained through factors related to trait (determined by genetics, personality, intellect, and other factors) and factors related to state (which can be influenced by, for instance, depression or substance use disorder). Stressors and protective factors, as well as threshold factors (for instance, access to lethal means, alcohol intoxication, crisis, and access to help), might further act as facilitators or barriers for suicidal behaviour.Suicide is seldom caused by a single causative factor. Most often, researchers see a number of factor that lead an individual to acting upon their suicidal ideations (Kahn, 2016). These factors can be bio-psychological, socio-cultural, environmental, or economic. Bio-psychological factors include disorders like schizophrenia, depression, anxiety disorders and other reasons like substance abuse, family history and trauma and so on. Other socio-cultural and environmental factors comprise of feelings of isolation, exposure to suicidal behavior, harassment or victimization, access to lethal means of self-harm, loss of a relationship and so on.These factors aid to formation of suicidal ideations.On the societal level, there are factors which can be associated with high or low risk of suicide. Rather than focusing on individual risk factors, the French sociologist Durkheim attributed variations in suicidal behaviour between different countries to societal factors such as sense of connectedness and social cohesion.The first major contribution to the study of the social and cultural influences on suicide was made at the end of the 19th century by the French sociologist Emile Durkheim. In an attempt to explain statistical patterns, Durkheim divided suicides into three social categories: egoistic,

altruistic, and anomic. Egoistic suicide applies to those who are not strongly integrated into any social group. The lack of family integration explains why unmarried persons are more vulnerable to suicide than married ones and why couples with children are the best protected group. Rural communities have more social integration than urban areas and, thus, fewer suicides.Altruistic suicide applies to those susceptible to suicide stemming from their excessive integration into a group, with suicide being the outgrowth of the integration-for example, a Japanese soldier who sacrifices his life in battle. Anomic suicide applies to persons whose integration into society is disturbed so that they cannot follow customary norms of behavior. Anomie explains why a drastic change in economic situation makes persons more vulnerable than they were before their change in fortune. In Durkheim's theory, anomie also refers to social instability and a general breakdown of society's standards and values. Family also plays a causative as well as protective role in suicide. Lots of researches showed and supported the fact that family factors plays a major role in the causation as well as prevention of suicide especially in the case of teens. Parents way of interaction, their quality of life, family support system, communication and interaction pattern ,all plays a role in the suicide.Familial conditions, such as separation, divorce, and widowhood, are linked to a higher risk of suicide, while marriage is often found to be protective against suicide [Agerbo et al,2005]. Having a child, particularly a young child, protects parents against suicide [Qin & Mortensen,2003]. Stressful life events, such as the death of a child or loss of a relative to suicide, are linked to increased risks of suicide [Tidemalm et al,2011]. Studies showed that the recent loss of a partner constitutes a stressor that is associated with higher risks of suicide, for instance in older adults [Erlangsen et al,2004]. Moreover, it is plausible that humiliation, bullying, financial ruin, fear of not passing exams, or losing one's job are all factors that might be associated with an increased risk of suicide. Amira et al (2009) studied the Protective Effects of SelfEsteem and Family Support on Suicide Risk Behaviors among AtRisk Adolescents. Results suggested that Selfesteem influences adolescent suicide risk

behaviors for youth with low as well as high family support. Interventions designed to strengthen both selfesteem and support resources are appropriate.DeVilleet al (2019) sought to evaluate the incidence of suicidal ideation, suicide attempts, and nonsuicidal self-injury, especially in the context of family dynamics among children aged 9 to 10 years. The result suggested that "High family conflict was significantly associated with suicidal ideation and nonsuicidal self-injury, and low parental monitoring was significantly associated with ideation, attempts, and nonsuicidal self-injury. A study conducted by Ganesan et al,2020 to investigate suicidal ideation in families . They found that suicidal ideation in parent is a risk factor that influence teen suicide.

Conclusion- Understanding suicidal behaviour at the family level will provide additional indicators for early detection and prevention teen suicide.Considering the high suicide rates in adolescents, the importance of providing psychoeducation, restricting access to lethal means, and promoting social integration in immigrants are various ways by which suicides in Indian adolescents can be avoided.

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Challenges in the field
of Sports in The 21st Century

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Field of Sports is full of challenges not only in the present scenario but also from the last number of centuries , but human beings with their innate potential to overcome the obstacles is the key to solve the problems to overcome the challenges they encounter in their life and to come out with flying colors, but sometimes, it happens that people are gradually unable to foresee, that for small problem is not tackled in the beginning then in years to come that's going to pose a serious threat for the next generation and by the time its roots will go to such a deep extent that it will be difficult for the nation , for the people to come out with the solution, which can satisfy all the people of the all categories to the greatest extent. Therefore, it is expected of the human beings that from the very beginning must try to find the solution for the problems, so that the deep roots should not possess any problem for the human beings in years to come. Challenges, of course, with the hard work can be overcome and human beings from last number of decades had been trying their level best to overcome all the obstacles successfully. Challenges make most of the human beings to face any kind of problem in any manner, at any stage of life with the positive bent of mind and create an example for others to imitate for years. Challenges can be there in any field and one must accept them gladly. Sports is a field where every challenge develops innovative qualities in the human beings but sometimes it happens that if right direction is not given then the things can't be achieved properly, therefore, it must be taken into consideration that combined and coordinated effort of all the departments of the particular discipline can overcome any kind

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of problem. Everybody's efforts give strength to the nation, give strength to the particular discipline, give strength to people who are the part of the particulate discipline and even give the strength to the new generation.

Innumerable challenges in the field of sports had been in existence and people overcame them successfully but still lot of things are to be done because India is a developing nation and right step at appropriate juncture can make the things easy otherwise situations will be very difficult to tackle. India's population is growing with the greatest pace but still laurels in the field of Physical Education or in the Sports is not to such an extent which can make us feel proud. Still lot many things are to be done, so that the way the western countries are winning gold medals, silver medals and bronze medals in all the field of sports can also be there in our own Nation. Let's discuss the problems or challenges that are still in existence in the field of sports and somehow these obstacles or challenges are to be tackled for paving the path to imitate the examples of field of sports of Western countries by which we can top the medal tally, but in absence of the successful tackling of the challenges, it is difficult for the nation to imitate the examples of the Western countries created in the field of sports because without the facilities, without proper infrastructure, without proper coaching, without proper training without proper nutrition, without proper curriculum, without proper finances, without proper mindset, without the cooperation of the society we cannot bring laurels to the nation in the field of sports.

Lack of proper infrastructure- It's very sad, even today proper infrastructural facilities; like, proper grounds, proper courts, proper track and Fields, proper swimming pools etc. are not available for the players of various Sports, as a result, the question arises where they would practice? In absence of practice and right direction nothing can be achieved. For the development of various parameters of physical fitness for various Sports, the above-mentioned facilities are must because for making any sport lover to achieve the physical fitness, they need the proper ground for running, it's not that we can make the children run anywhere. Sometimes everybody might have

witnessed children are running on the roads, are running a very small arena, where they are unable to develop prerequisites for the particular Sport. If it all, in any city, Court, ground or swimming pool is in existence then it is very far off from the children, who are desirous of playing in the fields. The burden of the studies is of such an extent, where buy they are unable to spare out time to go the courts or the play fields which are having run of one hour or one and half hour as a result, they are unable to flourish their own inclination for the sports and remain only a layman in the fields of sports and play it just for the passing of the leisure time without any intention for any excellence in it.

Lack of proper equipments- All the schools, private or government run are unable to have proper equipments for the various sports, children would like to play; like, if someone would like to play cricket then he would not be able to get the proper kit for the cricket. As a result, his dream of becoming a cricket diminishes in absence of proper facilities. Cricket is just an example; the condition is similar for all the sports events or games in existence. The question arises in absence of proper equipments how one would be able to excel? If at all, equipments are made available then they are made available just for the sake of availability, not with intention that the students would play and would excel in the particular field. The quality of the equipments is not up to the mark and if by chance they suffer from an injury then, in order to recover is also difficult task because they try to recover from there old methods which have been followed from last number years and which take lot of time for the recovery, thereby the prime-time finishes, and they switch for something else rather than the field of sports. Had proper equipments and proper ways for recovery based on scientific discoveries would have been there for the for institute, then conditions would have been different.

Lack of proper coaches at various levels- Proper hard work, proper strategy proper fitness, proper technique and proper mindset are the keys for the achievement in the field of sports. This can only we done by the coach who can inculcate all the qualities of a good sportsman in the player pursuing the particular game. Coaches have been trained with the scientific

mind set and if they are available then the players, the athletes can achieve their aim in short span of time. They are the ones, who had toiled harder and harder in the particular field of specialization and with their experience and expertise they can guide the proper player for proper destination. But their absence cannot take anyone anywhere. Some players try their level best to work of their own, which takes lot of time and their prime time for giving the sports performance finishes and this switch for something else rather than the field of sports.

Lack of proper curriculum- For achievement of excellence in any field one needs the devotion from the very beginning, but if, prime time for something, is passed then it becomes thousand times difficult to achieve excellence in the particular field. Similar is the case, with the physical education or the sports, or, all the games one would like to play. Therefore, if one would like to achieve excellence in the field of sports then the practice with right coach in a right direction must be started from the very beginning because children can be trained for all the physical fitness components at an early stage, but if somehow the prime time is passed then the development of all components of physical fitness is not possible and as a result the children ,when they become adults ,are unable to reap maximum benefit in the particular sports. This is the biggest problem which must be addressed in some way or the other, reason being, if right thing is not tapped at right juncture, then it becomes difficult to achieve something at the later stage of life. Children are very obedient and the quest they have to achieve something can be channelized in the field of sports to make them to choose the events or the games he /she would like to pursue, in order to bring laurels for the country. The starting time must be from the very beginning of the school curriculum. In the present scenario, the school curriculum is academic oriented and as a result much time is not devoted for the development of physical fitness in children which is the prerequisite for the excellence in any sports. If the physical fitness is stressed from the very beginning, then the children would be able to achieve excellence in any sports from the very beginning. Normally, it happens that the curriculum that is made it is having only one period of games in which they

are given the particular equipment or as per the facilities which are available in the schools and because of this, they keep on playing whatsoever is provided to them with the intention of passing that games period as a leisure time activity rather than devoting that period for choosing the activity, they love to do and as a result the precious time of their life every day, every year just passes in in leisure activities rather than   for the particular game they love to do. Innumerable children are there in the schools with a variety of skills in various games but the curriculum is not made as per the requirement of excellence in the field of sports, it is normally made with the intention of excellence in academic, which is witnessed by everyone in the vicinity. Everyone must have seen the banners or the cutting on the school boards or in the papers of the toppers who topped academically. They topped academically because from the very beginning they had been trained at various stages academically, that is the curriculum was made in such a manner that the stress must be on the academics rather than on the sports, and the result it is witnessed by everyone, in the form of academic toppers. Had the curriculum been of sports oriented, then, the scenario would have been different and to do something for the nation in the field of sports with such a huge population, it is the responsibility of the government to make some changes where by the stress must be given for the development of sports curriculum for the children who are lover of sports. In this, of course, the teachers would have to work a lot, in one way or the another for striking the balance between their studies and for their Sports. It is mandatory that the curriculum must be formulated for equal weightage for academics and for the sports, if, at all, laurels are needed in the field of sports with such a huge population.

Lack of proper diet- Proper diet in the field of physical education or in the field of sports is mandatory, incase, if someone wants to depict excellence in it. Reason being, in absence of proper diet or proper calorific intake as per the various events for various games in the field of sports, the performance instead of shooting up will start going down. Whenever the sportsman work hard, he dissipates the energy

resources stored in his body by the balanced diet that normally he or she consumes as instructed by the dietician. When the energy is dissipated in the field of sports by working hard then it must be restored, so that the sportsman is ready for the workout of the next day. This is the normal, routine that is there in the consumption of the proper diet. But, our various sportsmen at various levels of the sports are unable to have the proper diet and in absence of it the performance is not shown. Various games need diet as per their own schedule and hard work. A diet of office sprinter, footballer, swimmer, thrower etc. differ from each other and the same diet cannot be given in a generalized form to everyone, owing to the different demands of calories in the various games. But innumerable boys and girls you come from the village background or from the city background are hardly aware of the proper diet and keep on working from morning till evening to achieve excellence unaware off the severe consequences they would have to face in absence of proper diet. No one is there, who could guide them for the consumption of proper diet and if at all they are guided then in absence of proper economic condition of their house they are unable to have the proper diet this is the biggest challenge, that is in existence and needs to be addressed in some way or the other, in case if we want to bring laurels in the field of sports. Many children from various low-income group have the skill to perform better but unable to come out in limelight in absence of proper nutrition they want to have, for proper excellence in the field of sports and in turn, the proper glorification of India having such a huge population.

Lack of proper knowledge/ skill- Sports field is full of various games and every game is having its own skill for mastering it, in order to achieve excellence, but it in absence of it becomes difficult, thousand times, to achieve excellence. Proper skill needs to be taught from the various stages of student's life, but proper skill is hardly taught to them and they keep on working hard of their own without the proper skill to show their efficiency, which eventually results in null and void condition for them. Only rejections, they have to embrace in the field of sports, in absence of proper skill. For learning the proper skill,

development of physical fitness components are mandatory and for making physical fitness components' base strong, or in order to solidify the base of physical fitness components in the sports person, right knowledge/ right skill of the game, he or she must be aware of. By learning the proper skill, efficiency comes in the sports person and with the minimum dissipation of energy he is able to show his own caliber in the form breaking records. But records, are very difficult to be broken without the proper skill and this is the very pathetic state that children from the very beginning are not taught the skills of various games, they want to play in proper manner, when they are full of energy and where their physical fitness components can be channelized as per the need of the particular games, he or she would like to get himself or herself enrolled for. The development of physical fitness components in gymnast and the skill that a gymnast would like to learn are very different from the physical fitness components and the skill what one would like to develop, in the field of, football, athletics, swimming etc. and those must be mastered from the very beginning because the physical fitness components can be developed as per the need of the games in the early stage of the life ,but if someone has grown older then it becomes very difficult to change his physical components as per the need of the games and this is the biggest reason because of which are own country is not able to have innumerable sportsman in the particular event or games. By the time, they come to 12th standard, they had hardly mastered any particular skill of a particular game and as a result the physical fitness components were not developed, and when he decides to excel in the field of sports after 12th standard then the proper skill, he/she lacks, and just within a very short span of time it is very difficult to develop the skill and the physical fitness components he is in need of. Whereas, in the western countries from very beginning the proper skill and the proper fitness components are developed as per the need of the games, one would like to play and that's also, those persons who are teaching them are well aware of ,how to teach the skill on the basis of the scientific principles, which we are lacking because in our own country much importance is not given to the field of sports from very

beginning and because of which many students are unable to learn the proper skill at proper stage. The government must do something from the very beginning to teach them the proper skill of the proper game as per their body type, so that by the time they pass their 12th standard they are having the sound base in the particular skill after 12th standard their skill can be e developed to a greater extent by highly qualified teachers at a later stage. We needs some changes in our teaching systems of country then only something can be achieved a meaningful.

Lack of support from the family- In India, most of the parents want their children to become doctors and engineers or teacher of a valued subjects but hardly a teacher of a physical education or a sports person because they are aware that they would not be in the condition to support them for achieving excellence in the particular game he she would like to get enrolled. Still in this 21st century, in India we have a slogan' padhoge likhoge to banoge Nawab, khelogae koodogae toh banoge kharab' that is, if one would study, one would be able to acquire a good job, in contrast to it, if one would like to play then he would not be able to acquire a good job or would attain something meaningful in his life. They think, because of the huge population everyone would not be able to come out with flying colors in the field of sports and the amount of the investment they need for the excellence in the field of sports, they hardly have - so they better think for their daughters and sons to fight for the competitions of the various government jobs and to get settled in one form or another. Sports has become very scientific in the present scenario and that kind of a scientific bent in the field of sports needs huge amount of investment, because of which families get back from sports and the students/ children get dejected. The normal income of a middle class family in the today's scenario is hardly, 30000 per month and in this he has to meet out his various expenses of his daily life, so how it would be possible for him to spare out some money for the investment in the field of sports or for his coaching, for his diet, for his kit for his travel expenses at etc. and if a girl is there ,then parents are unable to support her in a proper manner by thinking that her dignity in some way or the other shouldn't be compromised, otherwise

they would have to experience innumerable difficulties in order to get her married. Indian still orthodox and hardly they support a female to take part in sports at various levels and if suppose, they would show the support then they cannot accompany her at the various stages. In case of boys, parents expect them to become doctors/ engineers so that they would be able to get a good bride with good dowry, incase, if one would remain only a sportsman of a district level then probably, they would not be able to have a good in-laws and good dowry, that's why they hardly show much support for their sons or daughters to participate in the field of sports for excellence. Some students are there who are crazy for the sports, they only are able to achieve something by going in an opposition to the dreams of their family and for which they have to pay a lot in one form or another. This is the biggest problem because much importance is not given to the field of sports in India, had the condition of giving importance to the field of sports been there, then many parents would have come forward to send their children to play in various games to bring laurels for their country but that is just an imagination, in reality things are very different.

Lack of proper Talent Hunt at proper stages- For achieving something, remarkable in life, distinguishable in life, adorable in life, unprecedented heights in life, proper planning is needed and in absence of it, it becomes difficult to reach the pinnacle of success. We might have seen are the vicinity that children, who crack the IIT/ JEE or NEET, work from the very beginning and the parents focus with full devotion that no loophole is left in their preparation from the very inception. This devotion of parents, students and teachers, eventually, help the students to achieve their long-standing aim of becoming doctors or engineers. Had the parents, teachers all the students might have not shown any devotion for the achievement of their aim from the very beginning then the condition wouldn't have been palatable. This shows, that preparation for anything achieving high must be started from the very beginning. Similar is the case of games and sports, in this field also if Talent Hunt for various games and for various skills is done from the very beginning

of the school, then the condition of bringing low medals in the international competitions can be reversed and India too, can stand among the western countries in the medal tally. Many perspectives are to be developed for achieving the excellence in the particular skill of particular game to achieve the efficiency and to achieve something unique in life. Physical fitness components cannot be developed in a day or two, skills cannot be developed in a day or two, the physique of the students in the starting is a very layman one and with the hard work and the right direction of the coaches, teachers and the right training methods bring them to a level where they would be in the condition to compete with others. Of course, in the training, if there is an amalgamation of the scientific base then the athletes of all the sports can do wonders. Many children from the village background having innate tendencies to play the game with utmost sincerity and much efficiency, but owing to the deficiency in the facilities, low economic backgrounds, they are unable to come to the forefront and because of which we lack behind in the medal tally. These children, if are trained from the very beginning, of course, huge number of expert athletes in every field can be there who would bring laurels for the country. This is a situation which must be addressed in one way or another for the Talent Hunt. If the Talent Hunt it is not done at the proper stage or if done at this stage where the student have crossed 18 years then it becomes difficult in many events to train them for excellence. In any manner physical fitness components; like, strength entrance flexibility, agility and coordinative abilities needs boost from the very beginning of the fundamental activities of the children. Therefore, in any condition the Talent Hunt must be done at the proper stage of life.

Drug abuse- This is also another biggest challenge which needs to be addressed at the proper stage. Many children in order to excel without having the proper physical components and without the proper direction keep on trying harder and harder in the particular field of sports. A condition comes where they are able to achieve average standard and then in order to excel for achieving excellence, they are guided for taking drugs and they

do so that they would be in the condition to get medals sometimes at the inter-varsity levels or at the state levels. Many firms come in order to offer them jobs in their departments. Because of this, they have the intention to excel up to the level of the state or at the University by using the drugs and we being unable to have any detection machine at these levels these drugs are used in huge quantities. Children are unaware, at this stage of the severe consequences they would have to face of using the drugs. In long run, when the keep on using the drugs, gradually he/ she is able to see the after effects of it, which are not at all good for health in any manner. Boys start becoming bald just single consequence of using steroids and the girls start showing the secondary sexual characters which is harmful for their femineity, their cycles are disturbed and many more. Therefore, in some way or another government must see to it what are the various organizations at the various levels of the sports must try to set up various tests which can assess that their performance in absence of drugs or in the presence of drugs. Bad practices must be nipped in the bud itself because, if such athletes are selected and if they would go at a higher level, they would continue with the same practice of taking drugs and when government would invest huge amount for their training, that would all be futile. Therefore, at the various stages competition, assessment for the presence of drugs must be done, so that the children are aware of that, in case if they would take drugs, they would be caught and, as a result, they would purely work with full devotion for achievement of excellence rather than becoming handicap by the usage of the drugs.

Domination of cricket over other games and sports- This is also a biggest challenge that the kind of the affinity that exist for the field of cricket is hardly there for any other game in India. The kind of the respect that the cricketer reap is still not having the same for the other sports persons of other fields. Therefore, something must be done so that the equal importance is given to all the sports persons of all the fields, so that all the children are attracted not only for the cricket but also for all the games. In this the role of the society, the role of media, the role of the government is prime, who are going to project the importance of

the various games in front of the people or the society. If the society would start giving importance to all the sports person of every field, then condition could be ameliorated.

Conclusion- In the above paragraphs, it could be seen that the lack of infrastructural development; proper grounds; proper coaches; proper curriculum; proper diet; proper support of the family; proper knowledge and the proper hunt for talent at the proper stage, drug abuse, much domination of cricket over other games are some of the challenges which needs to be addressed in some way or another for the achievement of excellence in the field of sports.

Awareness Level of Citizens Regarding Adverse Impact of Noise on Health in Mumbai City: Major Challenge in 21st Century

• **Dr. Rani Tyagi**

1.0 Introduction- Noise is an increasingly omnipresent, yet underestimated, form of pollution. Long periods of exposure to relatively low levels of noise can have adverse effects on human health, such as raised blood pressure, hypertension, disrupted sleep and cognitive development in children, diminished working memory span, and psychiatric disorders.

Previously confined to a few special areas like factory or mill, noise pollution today engulfs ever nook and corner of the globe, reaching its peak in urban areas. Apart from occupational noise exposure at the work places, leisure time noise as well as that from loudspeakers and firecrackers used during festivities has become a matter of serious concern. During the Paleo Fesival in Nyon, Switzerland in 2009, sound levels at the mixing console and at the place where people are most heavily exposed (in front of the speakers) were measured simultaneously. In addition, a sample of 601 people from the audience were interviewed over the six days of the festival and asked their opinion of sound level and quality, arena they preferred to listen to the concerts, whether they used ear plugs, if they had experienced any tinnitus, and if so how it had persisted. The individual sound exposure during a typical evening was on average 95 dB (A) although 8% of the volunteers were exposed to sound levels higher than 100 dB (A). Only 5% of the audience wore ear plugs throughout the concert while 34% used them occasionally. While some 36% of the people interviewed reported that they had experienced tinnitus after listening to loud music. It was recommended that ear plugs be used by concert-goers who attend more than one day of the

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festival. None being immune to the noise stress, we seem to adjust to noise by ignoring it but the body continues to respond manifesting adverse auditory and non-auditory effects.

2. Health Impacts Related with Noise- The health risks of traffic-related noise pollution (e.g., noise annoyance, sleep disturbance, hypertension, cardiovascular risks and poorer school performance) have been extensively documented by numerous epidemiological studies (Brunekreef and Holgate, 2009, Getzner, 2012, WHO 2012 and Basner et al., 2014). Exposure to aircraft noise and road traffic noise can impact certain aspects of children's episodic memory (Guzejev, 2010). The World Health Organization guidelines say that for a good sleep, sound level should not exceed 30 dBA for continuous background noise, and 45 dBA for individual noise events (Ising, 2010).Noise affects communities; causing nuisance and health effects like sleep deprivation (Lu & P. Morrell, 2006). The World Health Organization recognizes community noise (also referred to as environmental, domestic or residential noise) as a public health problem and published guidelines to combat excessive noise pollution in Berglund et al. (1999). In an extension, the World Health Organization focused on the health effects of night-time noise exposure for Europe (World Health Organization [WHO], 2009). Auditory and non-auditory effects on human health are related to noise exposure, with the latter effects being less well-established (Clark &Stansfeld, 2007). These adverse effects on human health cause costs that are of relevant concern for the affected individuals and the entire economic system. Especially, treatment costs of diseases and health problems (stationary and ambulant hospital treatments, medication and consultations), productivity losses in occupational settings (sickness absence, lost output, non-productive time and invalidity) and immaterial costs due to losses in quality of life are pivotal. Effects on housing prices and rents are also important economic dimensions. Residences in noise-polluted areas are subject to value decrease and occasionally, cost-intensive adjustments for noise insulation facilities (Lu, C 2011). The linkage of clinical health effects and noise is complex. A direct relation between noise exposure and certain clinical symptoms is

difficult to determine because of a range of interdependencies and influencing factors(European Commission [EC], 2005).The health risks of traffic-related noise pollution (e.g., increased risks of heart attacks, the exacerbation of asthma among children, and reductions in life expectancy/LE) and noise (e.g., noise annoyance, sleep disturbance, hypertension, cardiovascular risks, and poorer school performance) have been extensively documented by numerous epidemiological studies (Brunekreef and Holgate, 2002; Cesaroni., 2013; World Health Organization, 2012, 2013; Basner et al., 2014).

3.0 Questionnaire Design and Survey- A survey was conducted with 683 participants in Mumbai regarding the awareness level of noise, source of noise pollution and various health impacts they are facing with respect to noise. Face to face interview interview was conducted by me over a period of almost six months. To test approaches for the questionnaire for the valuation questions, focus groups were used. A focus group is a group consisting of typically five to ten people where the intent is to promote self-disclosure among participants, regarding the topic under investigation. The participants are individuals representing different characteristics of the target group for the main survey. Through group discussion, led by a professional moderator, approaches and key questions related to the studied topic were explored to find out what people really felt and to reveal challenges and conflicts when making the questionnaire for the main survey

The focus groups consisted of 5 – 10 people who discussed issues essential for the survey. The group participants were selected in order to reflect different interests and stands concerning the survey topic. The group discussion was led by a person who asked the key questions. Participants in the focus group were selected from noise databases or maps, showing exposure to road traffic or rail noise, and people who were exposed to high level of road noise were selected. The session started by asking general questions related to the topic, followed by more specific questions leading to the essential topics in the survey. Focus group discussions were conducted to understand the noise pollution status in Mumbai city to modify the initial

instrument. Questions and multiple-choice responses were prepared and refined through focus group discussions

3.1 Impact of Noise Pollution on the Respondents- In the given questionnaire, the respondents were also asked to rate exposure level in a four point scale from Not at all loud- Slightly loud- Loud- Extremely loud. 122 respondents said that they were exposed to 'Extremely Loud' traffic noise.45 respondents reported aircraft noise and noise from firecrackers and 44 and 37 respondents complained against noise from construction activity and noise from the neighborhood, respectively. Road traffic noise is considered to be the most disturbing factor if we calculate in terms of exposure and loudness.
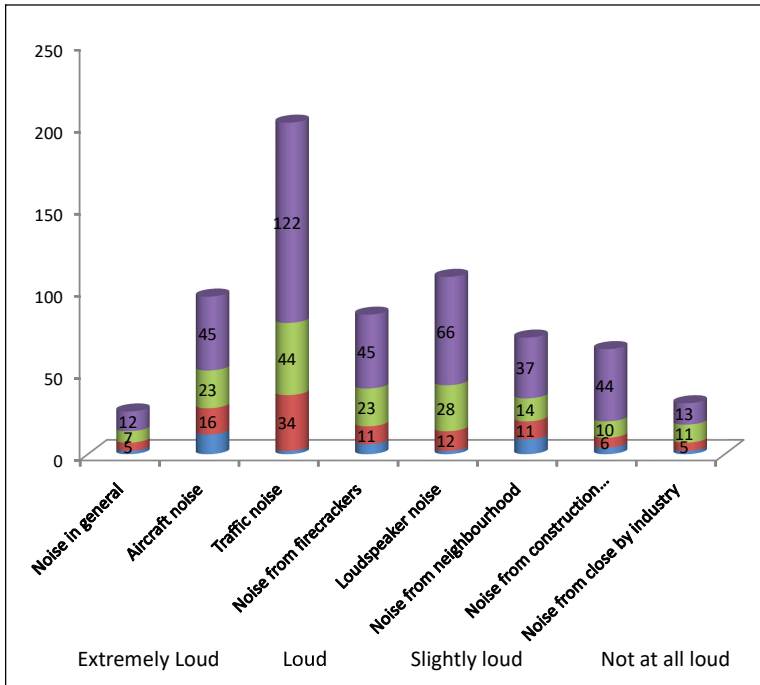
Figure 1 : Loudness Levels of Different Sources of Noise

Health is a highly important issue related with noise pollution. A common observation was that most of the respondents were not even aware of adverse impacts of noise on health, often attributing their problems to causes other than

noise. The awareness level was very low regarding these health impacts. Only 26 respondents reported about tinnitus, i.e., ringing of ears on a regular basis whenever exposed to noise and 80 respondents never experienced it or noticed it. 27 respondents complained of insomnia regularly. Only 2 respondents reported loss of hearing, but were not sure whether it was related to noise. 17 respondents faced interference with communication and 12 respondents showed the symptoms of impaired task performance. In most of the cases, respondents were not able to correlate their health symptoms with noise because of their lack of awareness regarding adverse health impacts of noise.
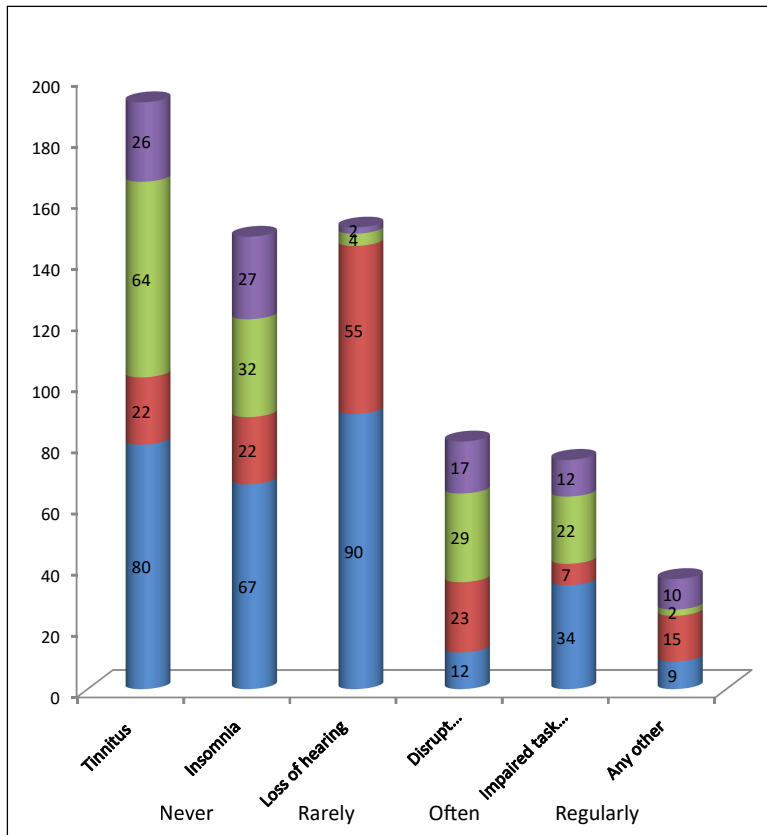
Figure 2:Health impacts of different Sources of Noise

The respondents were also asked what precautions they took to avoid noise pollution. 33.24% respondents said they just tolerated it as they did not have any choice. They were resigned to the thought that noise had become a part of their lifestyle and they had no choice but to bear it. 24.45% respondents claimed that they did nothing, were not bothered and had neither time nor energy to spend on such issues. 17.13% said they had changed their bedroom away from the street-side to avoid noise pollution. 12.3% respondents put heavy curtains, and 9.22% were planning to move to quieter residences. Only 3.56% put a double glazed window to prevent noise pollution. It means out of 683 respondents, only a few were aware of the advantages of double glazed windows. However, a few builders have now started using double glazed windows to prevent noise pollution if the building is in a noise prone area.
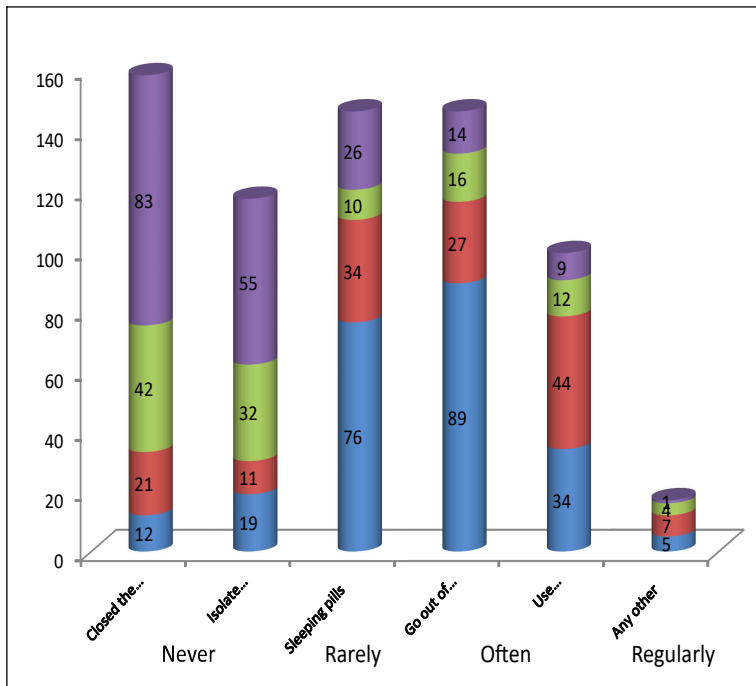

Figure 3: Different Ways of Avoiding Noise pollution by Respondents

Recommendations

1. A major step forward in raising the awareness of the public is to concentrate on more research and development. Hence more policy- relevant research should be supported by the Government.

2. Legislation should be put in place to allow for the reduction of sound levels and a separate Act should be introduced for tackling all these problems in a proper legal aspect;more importantly, existing legislation should be enforced.

3. Government should adopt the *willingness to pay* values as targets to be achieved in the form of environmental taxes in the long-term for transport projects in noise management.

4. The government should take proper legal measures to protect the population from road traffic noise and consider it an integral part of its policy of environmental protection. It shouldoutline suitable guidelines, after consultation with experts, for monetary valuation of noise in cities like Mumbai.

5. Adequate research and policy decisions should also target the remediation of noise pollution – no honking signage, green belts, noise barriers and other such steps should be encouraged

Conclusion- Noise is likely to continue as a major issue well into the next century, both in developed and in developing countries. Therefore, strategic action is urgently required, including continued noise control at the source and in local areas. Most importantly, joint efforts among countries are necessary at a system level, with regard to introducing joint programs for the evaluation and implementation of traffic related noise. Certainly, mankind would benefit from societal reorganization towards healthy transport. Furthermore, noise mitigation, including noise management, has to be actively introduced and in each case, the policy implications have to be evaluated for efficiency.Noise is both a local and a global problem. Governments in every country have a responsibility to set up policies and legislation for controlling community noise.

There is a direct relationship between the level of development in a country and the degree of noise pollution impacting its people. As a society develops, it increases its level of urbanization and industrialization, and the extent of its transportation system. Each of these developments brings an increase in noise load. Without appropriate intervention, the noise impact on communities will escalate. If governments implement only weak noise policies and regulations, they will not be able to prevent a continuous increase in noise pollution and associated adverse health effects. Failure to enforce strong regulations is ineffective in combating noise as well.

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Impact of COVID on Hospitality and Tourism Sector and Recent Practices in India: An Overview

• **Aftab**

Introduction- "India, known for its ancient tradition of Atithi Devo Bhava or 'guest is god' has been hosting foreigners for ages. From Kashmir to Kanyakumari and from Guhar Moti to Kibithu, the country offers an immense opportunity to the hospitality industry." About 31.9% of the Indian population is employed in service sector which contributes about 54.3% of the Indian GDP. The Indian tourism and hospitality industry have emerged as one of the key drivers of growth among the services sector in India. Tourism in India has significant potential considering the rich cultural and historical heritage, variety in ecology, terrains and places of natural beauty spread across the country. Tourism is an important source of foreign exchange in India similar to many other countries. The foreign exchange earnings from 2016 to 2019 grew at a CAGR of 7% but dipped in 2020 due to the COVID-19 pandemic. [1] In FY20, tourism sector in India accounted for 39 million jobs, which was 8.0% of the total employment in the country. By 2029, it is expected to account for about 53 million jobs. According to WTTC, India ranked 10th among 185 countries in terms of travel & tourism's total contribution to GDP in 2019. During 2019, contribution of travel & tourism to GDP was 6.8% of the total economy, ~ Rs. 13,68,100 crore (US$ 194.30 billion). [1]

Hospitality and tourism are considered to be the largest and fastest growing industries. Due to the area of pandemics and infectious diseases, the tourism industry has become very volatile. The tourism industry has been hit hard by internal and external shocks compared to other major industries in the country. In the last few months, the dramatic outbreak of the new

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COVID 19 has caused enormous losses to the tourism industry.

Background- The new coronavirus occurred in Wuhan Province, China in December 2019. The spread of the virus has caused international health emergencies due to its high risk and infection. The impact of COVID19 was so severe that it quickly expanded its roots to nearly 195 countries around the world, recording approximately 52.7 million cases worldwide. Citizens returning to India were examined and quarantined after thorough observation and clinical research. In March 2020, the Government of India imposed a national blockade and banned international flights and visas. At that point, it became clear that COVID 19 had a serious impact on the country's economy and tourism sector. Other countries have also begun to ban travel and visa policies. As the number of incidents increased, the Government of India imposed a complete blockade on the country to help regulate the spread of the pandemic. The blockade imposed by the government helped to a large extent prevent the spread of the malicious coronavirus, but it had a significant impact on the country's economic growth. The hardest hit by the COVID 19 pandemic were day laborers and immigrants. India's tourism industry is heavily influenced by the Indian economy. Crossing the state was banned and there was a curfew limiting freedom of movement. Tourism activities have come to a dead end. Other key industries in each country were unlocked in June 2019, but tour and travel restrictions remained. The World Travel and Tourism Council estimates that Covid19 and travel restrictions could result in the loss of approximately 174 million travel and tourism jobs in 2020. [2]

        This article is written with the situation before and after COVID in mind. Shows how hospitality and tourism service providers have changed during these difficult times their business approach focuses on the positive impact they have earned as a contract. Negative does not mean that it did not produce or leave a negative effect, it goes without saying that it leaves it behind. . Most of them rely purely on daily wages, unsecured work, etc. in circles like India People living in the countryside move to big cities in search of a better life. This kind of situation occurs, it is just such a majority of those who are

suffering and we I saw a problem that would impose on the whole system.

Objectives

- ➢ To highlight impact of COVID 19 on service sector of Indian economy
- ➢ To study the spillover effects of COVID -19 on the economy mainly hospitality sectors and tourism sector.
- ➢ To specify the strategies that the Indian Hotels industry should adopt in order to cope with the effect of COVID 19 and to survive in this tough situation.

Literature Review

Mr. Sudip Mullick and Ms. Sneha Joshi, Khaitan & Co, stated that the hospitality and entertainment industry confronted a main crisis scenario in terms of operations and sales in the course of pandemic and the enterprise would possibly take 12-18 months to recover. As consistent with them a few experts cited that the sales will agreement from 30%-50% in 2020 in comparison to 2019. additionally they said that the manufacturers like Hilton and Mariott have evolved unique packages for ensuring that there are advanced hygiene practices making sure full protection of their guests [3]

Tourism is a significant sector for generating income and employment in India. It contributes 9.2 percent of India's GDP in 2018 and creates 8.1 percent of its total employment. The tourism industry positively impacts the employment of countries, increasing foreign exchange earnings, promoting domestic industries, expanding international cooperation, and, most importantly, improving people's livelihoods and many other economic growth factors. India ranks eighth out of 184 countries in terms of tourism share in GDP with 247bn. India's rank was 25th globally and 7thin Asia concerning international tourist arrivals in 2018. The share of tourism in total employment is 12.13% in 2017–2018 and rises to 12.75% in 2018–2019 (India Tourism Statistics, 2019). India's position in the travel and Tourism Competitive Index (TTCI) of the world economic forum is 40th position in 2017, and currently, India has uplifted to 34ᵗʰ position in 2019. This sector's direct and

indirect employment also rises to 5.56–7.19 percent in 2018–2019. The nationwide lockdown will restrict both international and domestic tourist movement. "The Indian tourism and hospitality industry is staring at a potential job loss of around 38 million, which is 70% of the total workforce," due to corona virus (Shetty, 2021). There is a 66.4% decline in overseas tourists' arrivals in India in March 2020 compared to last year. There is a fall in foreign tourists' arrival rate by 68% from February to March 2020 and hence a fall in foreign exchange earnings (FEE) by 66.32%, which has a significant impact on the economy (Jaipuria et al., 2021).[6]

Vikrant Kaushal and Sidharth Srivastava in their article named 'Hospitality and tourism industry amid COVID-19 pandemic: Perspectives on challenges and learnings from India' mentioned that due to pandemic there has been travel restrictions, event cancellations, border closures and quarantine requirements which have given extreme challenges to tourism and hospitality industry. Post lockdown one of the prime solutions to the situation is employee training and re-training where multitasking is a key in the longer run. Participants in the research also stated the importance of media in awareness of COVID-19 outbreak and necessary precautions to be taken while being unbiased on the communities.[4]

CURRENT SCENARIO- Prashant Pitti, co-founder of EaseMyTrip said while the platform has not seen an impact on bookings so far, the emergence of a new variant can pose a serious threat to the sector."Covid-19 severely impacted the travel industry and everything was at a standstill. We are getting some queries from customers on the new variant and their flight bookings. We need to wait and watch,"Rajiv Mehra, president of the Indian Association of Tour Operators (IATO) stated that the association is with the government on the issue of health and safety of the countrymen; however, banning flights is not the solution. "We can increase the screening at the airports, and anybody found infected after testing should be quarantined. The thrust should be on having fully vaccinated people travel and within our country too, we should raise the vaccination percentage.

RESEARCH METHODOLOGY- This study is descriptive, conceptual and data has been extracted from a variety of sources to analyze the impact of recent COVID 19 outbreaks on India's tourism and hospitality sector. This survey is based on secondary information gathered from relevant authorities' websites, media publications, articles and research papers.

Results and Findings- Recent trends in Hospitality and tourism in Post COVID Scenario

1) Hygiene and Safety

There are many trends in the hospitality industry that can be broadly described as related to safety and hygiene. These are especially important with the advent of COVID, where the world is adapting to the virus and trying to contain its spread. It is important that these concepts are the priorities of hotels, restaurants, bars and cafes.

Actions here may include providing hand gels, cleaning customer areas, implementing guidelines on wearing masks and other protective equipment, and following social distance rules. Special rules need to be clarified and enforced in advance so that people can rest assured.

2) Voice Search & Voice Control

Voice search is becoming more common among customers who search for and book hotels and restaurants. Therefore, clear efforts must be made to respond to this change in behavior and attract these customers. This means, among other things, that the content of website is clearly structured so that it appears correctly in voice search results.

Also use the voice control to control devices in hotel room to improve guest experience. Smart speakers can, for example, provide guests with answers to questions and turn on room lights and devices in response to voice requests. This can also reduce the number of surfaces that guests touch**.**

3) Training of staff

Employees are always in contact with guests It plays an important role in customer satisfaction. With the help of medical professionals and domains the specialist and hospitality industry has begun training employees for the new regular SOP Maintain on-site safety and hygiene practices. The training

module is based on about the guidelines of the Ministry of Health and Family Welfare of the Government of India. Given the seriousness of the situation, employees are trained to enable them Things are serious. Employees are also motivated to change this "new normal" into a "new" one. chance '. In this situation, cross-training is provided because the industry is working together. Minimal staff and it helps staff multitasking. Domain experts too By participating in security programs organized by various regulatory bodies

4) Enhance F&B Delivery at Home

Many restaurants and eateries are adapting to the COVID situation by enhancing food and drink delivery so that customers can enjoy something like a dining experience at home. This often means accepting orders over the phone or online, delivering quickly and providing contactless delivery. An important part of hospitality management in the COVID era is finding innovative new ways to impress customers. When it comes to food and drink delivery, the bar is looking for ways to deliver drinks to customers' homes, but restaurants are increasingly offering perks such as candles, free food, and QR codes with Spotify playlists. .

5) Robots in Hotel & Restaurant Settings

Automation is at the top of the list of notable hospitality trends, and robotics is a good example of how this is moving forward. Companies such as hotels and restaurants can use robots to greet customers and provide customer information. It can also play an important role in security operations.

 In the hotel environment, robots have been used to provide room service, cleaning and other cleaning tasks. Meanwhile, the restaurant may be able to use the robot to handle the aspects of catering. This is especially useful if restaurant customers are trying to reduce close contact with people as much as possible**.**

6) Virtual Reality Tours

Virtual reality is one of the most exciting technology trends in the hospitality industry, providing hotel guests and restaurant guests with the opportunity to relax and experience   their

surroundings at home. This is crucial in moving these people from the planning stage to a commitment to a real visit.

Virtual Tour / 360 Video will help some customers better understand the facilities available. Using this service has a clear advantage over competitors who have not yet taken advantage of this particular hospitality trend. Also, the web-based nature of the latest VR tours means that they are easily accessible on many devices without a VR headset.

7) Mobile Check-In Service

Providing mobile check-in services, primarily related to hotels and other forms of accommodation, is one of the most useful hospitality trends to reduce the need for personal contact, which is in the context of the COVID pandemic. Apart from that, mobile check-in allows customers to benefit from self-service at more normal times and much faster to reach part of the customer experience.

8) Sustainability

Customers are increasingly interested in environmental issues and want to know that the companies they deal with are behaving ethically. For this reason, sustainability is one of the most prominent hospitality trends these days, and more and more hospitality businesses are driving environmental considerations.

ROAD AHEAD

Emergence of New Concepts

- **Staycation:** it is seen as a new trend for people to stay in luxury hotels for a peaceful break from stress. To meet these needs, major hotel chains such as Marriott International, IHG Hotels & Resorts and The Oberoi Hotels have introduced accommodation packages that guests can choose from a variety of carefully selected experiences within the hotel. [1]

- **Workcations:** Nowadays, people have the opportunity to work from home, which gives the hotel the opportunity to create new opportunities. After the

lockdown, a new concept called workcation has emerged, where people move to different locations and stay in hotels that offer internet connectivity. Tourists work during the day and enjoy activities at their destination in the evening. [1]

- **Weekend gateaways:** After the blockade, people had to relax with their friends and a family away from home. The hotel has begun offering weekend vacations as. Apply Rapid Leisure and Recreation Options India's travel and tourism industry has tremendous growth potential. [3]

- The industry is also looking forward to the expansion of e-Visa scheme, which is expected to double the tourist inflow in India. India's travel and tourism industry has the potential to expand by 2.5% on the back of higher budgetary allocation and low-cost healthcare facility according to a joint study conducted by Assocham and Yes Bank..

Facts and figures

- By 2028, international tourist arrivals are expected to reach 30.5 billion and generate revenue over US$ 59 billion. However, domestic tourists are expected to drive the growth, post pandemic.

- International hotel chains are increasing their presence in the country, and it will account for around 47% share in the tourism and hospitality sector of India by 2020 and 50% by 2022.

- As per the Federation of Hotel & Restaurant Associations of India (FHRAI), in FY21, the Indian hotel industry has taken a hit of >Rs. 1.30 lakh crore (US$ 17.81 billion) in revenue due to impact of the COVID-19 pandemic.

Government Initiatives

- Under Budget 2020-21, the Government of India has allotted Rs. 207.55 crore (US\$ 29.70 million) for development of tourist circuits under PRASHAD scheme. [1]
- From November 15, 2021, India allowed fully vaccinated foreign tourists to visit India, which in turn will help revive the Indian travel and hospitality sector.
- In November 2021, the Ministry of Tourism signed a Memorandum of Understanding (MoU) with Indian Railway Catering and Tourism Corporation to strengthen hospitality and tourism industry. The ministry has also signed an MoU with Easy My Trip, Cleartrip, Yatra.com, Make My Trip and Goibibo. [8]
- In November 2021, the Indian government planned a conference to boost film tourism in the country with an aim to establish domestic spots as preferred filming destinations. This move is expected to create jobs and boost tourism in the country.

Conclusions- The hospitality industry is heavily influenced by the COVID 19 pandemic, and there are uncertainties in that aspect. Even if the hospitality industry resumes with new regular guidelines It is very important to the industry to win the trust of our customers in the best possible hygiene. The new trends and practices above are not the perfect solution to the problem There is a loss, but it certainly helps the hotel industry to resume and continue it until then The pandemic is over or appropriate vaccinations are available. The focus should be more on the domestic market, Continuous marketing through social media platforms that present new trends and techniques Help them boost their business.

Helping companies regain the trust of travelers is to ensure that major tourist destinations such as hotels and restaurants are disinfected and regain the trust of people that all tourist destinations and accommodations are safe from Covid 19. .. The future of the tourism sector depends on the speed of the virus infection and how it is contained. The hospitality industry has a lot on that plate and it will take some time before it

becomes "fully normal" again. With "New Normal".

Limitation of study- The research is based on data derived from secondary sources only and thus has a scope for further research based on primary sources. Furthur more there is scope for establishing relation between automation and implementation of robotic or AI technology in the hospitality and tourism sector major contributor to service sector to boost economy.

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High Suicidal Risk Factors in Adolescents

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Introduction- The definition of suicide is an act that is which is intentionally killing or taking own life. The definition does not tell us about the complexity of the act. The suicidal ideation and behaviour is been subjected by international attention and debate. So the out-come of the nomenclature of suicide behaviours is fatal and varies from person to person. Sometimes they are referred to as "suicidality" while others term these as "suicide related behaviours" or "suicidal behaviour". The suicide attempt should be made possess the following characteristics: (a) self-initiated, potentially injurious behaviour; (b) presence of intent to die; and (c) nonfatal outcome. There are other related behaviours and definitions about self-harm, non-suicidal self-injury, suicidal threats and suicidal threats and suicidal gestures.

Risk Factors: Psychopathology- There is a correlation in suicidality and psychopathology is well documented in the literature. People, including youth, who contemplate or attempt to die or suffer from one or more psychopathologies. In mood disorders these are most common mental disorders reported as associated with suicidal behaviour. There are several studies found a correlation between suicide attempters suffering from depression and high levels of impulsive and aggressive behaviours. Those who tend to engage in suicidal behaviours are those suffering from schizophrenia. The methods used in suicide

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attempts by individuals suffering from schizophrenia are largely nonviolent. The result states that compared suicidal intent, violence of method and motive in patients suffering from schizophrenia and adjustment reactions with self-harm. They also examined the effect of positive symptoms of schizophrenia on self-harm. But did not schizophrenic group did not significantly use more violent methods. The use of a violent method was also not significantly associated with the presence of positive symptoms in schizophrenia. Another mental disorder strongly associated with suicidal behaviour and completion is Borderline. (Symonds and colleagues, 2006).

Personality Disorder (BPD)- Studies found that three out of four individuals suffering from BPD will engage in suicidal behaviour. Average individual with BPD make three lifetime attempts and ten percent of BPD patients will complete suicide. There are psychological autopsies have reported a wide range of mortality due to borderline personality disorder (between 7% and 38%) which probably reflects different methodologies of diagnostic ascertainment. It attempts that suicide in alcoholics are common and have been also linked to behavioural inhibition, impulsivity and aggression with the use of violent methods for the attempts. The study found that percent of the subjects with alcohol dependency reported life-time suicide attempts. Result should that similar results were obtained in a study that compared two groups of psychiatric subjects, a group with substance dependence and another without. The substance dependent group had a tendency towards more impulsive aggressive personality and a history of suicidal thoughts and behaviours. There is a statistical significance at 0.05 levels in this study. There is a presence of low specificity, psychopathology is probably that the single most important predictor of suicide. Accordingly, approximately 90 percent of suicide cases meet criteria for a psychiatric disorder, previously documented, particularly major depression, substance use disorders, cluster B personality disorders and schizophrenia. However, despite the fact that most suicide attempters do suffer from psychopathology, most persons with psychiatric disorders do

not attempt suicide. Therefore other factors over and above psychopathology must be involved.

Aggression- In this there are different approaches which attempt to study the relationship between aggression and suicide completion, different steps have been taken. They compared medically serious suicide attempters to healthy controls. The trait aggression was higher in medically to healthy group than the study did not include a non-medically serious suicide attempters control group. The another study replicated that they look differences among those with specific psychiatric pathologies, personality disordered individuals, particularly those who are more impulsive and aggressive and who have a co-morbid depressive disorder were found to have a higher risk for more frequent and more medically severe suicidal behaviour in comparison to individuals with Major Depressive Disorder (MDD) or Bipolar Depression (BD) alone. In a different perspective on the relation between suicide and aggression, several studies focused on choices of methods for the suicide attempt. The finding state that the use of violent methods of suicide is a behavioural marker of a higher level of lifetime impulsive aggressive behaviours and is more often used by males than females, and in suicide completers affected by psychosis. Others even suggest that aggression may be indirectly linked to high lethality attempts. It was found that violence during the last year of life is more frequent among suicide victims than accident victims. Study conducted by Soloff and colleagues in 2005 found that high lethality and low lethality suicide attempters with borderline personality disorder (BPD) were not different in their levels of aggression. Gender is a factor that is closely related to suicide attempts and to the lethality of the attempt. It has been found across different studies, that actual suicide is more prevalent among men, whereas nonfatal suicidal behaviours are more prevalent among women. Soloff and colleagues in 2005

Violence, Suicide and Gender- There are histories of violence, gender does not appear to protect against suicide risk. But less researches has focused on potential gender differences in the relationships between suicidality, violence, and associated

variables. The study indicates about the gender important and the effect on violence and suicidality. According to Becker, et al. (2007) he studied the effect of gender on the prediction of suicidality and violent behaviour among both male and female subjects. In the research gender made an independent contribution to the prediction of both suicide risk and violence risk, but in opposite ways, with female gender contributing to the suicide risk and male gender contributing to violence. But similarly, the studies on exposure to violence demonstrated gender specific associations between exposure to violence and suicide risk. Exposure to community violence may be an additional risk factor for both conditions, especially in boys.

Suicide and self-harm in the young- Worldwide, suicide has been stated as the leading cause of death among females aged 15- 19 and is third for males of the same age. Figures indicate that around the world at least 164,000 adolescents kill themselves every year and an estimated four million attempt suicide. Youth suicide, worldwide, is increasing at a greater rate than other age groups (Wasserman, 2005). Younger people are at a higher risk of suicide than older people (Patton et al., 2009). In the UK, suicide rates are not published at all for those under 15. In 2011, for young adults 15-19, suicide is the second most common cause of death after road traffic accidents (ONS, 2011). The number of children and young people who talked to Child-Line UK about suicide (either as their main problem or as an additional problem) more than doubled in the five years 2004-2008. 2,291 young people called because they were feeling suicidal and this was their main reason for calling. 93% of these were aged 12-18. (NSPCC, 2009). 86% of the respondents admitted that depression was the main reason for calling. They also admitted to hurting themselves as a way of 'coping'. (NSPCC, 2012). The statistics on self-harm for young people in the UK are unreliable for a number of reasons. Many young people who self-harm will treat themselves or will be treated at home and will not reach the attention of services or professionals (Mental Health Foundation, 2006).

In a survey of 6020 students in 41 schools in England, it was found that 70% of that self- harming, with accompanying

suicidal thoughts, had stated that this was because of worries about school work and exams. The possible connection between increased exam pressure and mental health issues is something that has not yet been adequately researched. Suicidal behaviour, depression and self-harming have multiple causes which are biological, psychological and environmental. It is not always possible to see direct cause and effects links between exam stress and suicidal behaviour. However, the suggestion that the pressure of high-stakes exams is a contributing factor has to be given greater credibility.

Suicide- Suicide is a tragic event with strong emotional repercussions for its survivors and for families of its victims.

Theories of suicide- There are many theories of suicide according to those theories given by various researchers such as Interpersonal Psychological Theory given by Joiner on suicidal behaviour tendency or desire to die, due to dissatisfaction from life people attempts to kill themselves, due to feeling overburden of work on them in life. There self esteem is also low.

According to Thomas, the interpersonal psychological theory of suicidal behaviour argues that, the individual who self harm must be habituate for physical pain and having fear of dying that process of habituation comes from repetition of those painful and provocative events.

Emile Durkheim has emphasized on collective social forces and neglects other factors. He has given two basic types of regulation of individual disturbed by society. The first type talks about social integration in low integration person feel loneliness and in high integration they achieve big goals losing themselves. This theory supports Joiner.

The Second types is mood regulation : In low regulation if there is change in any of the position individual will be unable to accept the changes and lack in social direction, but in high regulation they are been burden with rules and follow like a slave.

The theory of Durkheim was influential because if person is been disconnected from society then he or she can end his or her life. The other thing talks about the individual perception

about the burden and a high risk factor to commit suicide.

According to Edwin Shneidman Theory, this theory states that if the person is suffering from certain kind of psychological and emotional problem or pain which is intolerable, lead to commit high risk of suicide. According to Aaron Beck Theory, there was a study conducted by Beck and colleagues saying that having high hope commit suicide compare to low hopes. But Joiner argued on the Beck stating that hopelessness is not sufficient for suicidal behaviour.

Joiner also argued that hopelessness about belongingness and burdensomeness is required, together with the acquired capability for serious self-harm. But Beck also states that his or her previous suicidal experience or related thoughts and behaviour become more accessible and active.

According to Joiner's Interpersonal-Psychological Theory of Suicidal *Behaviour,* an individual will not die by suicide unless s/he has both the desire to die by suicide and the ability to do so.

According to Roy Baumeister, he gave Theory on Proposed an escaped theory of suicide; he gave a series of steps on suicidal behaviour, individual person having negative thoughts that lead to expectations and actual events. Second step is high self-awareness create negative affect become sad or distress. Those who escape from negative affect and from self-awareness into cognitive deconstruction. If individual has a meaningful thought he or she herself or himself tries to replaces his or her cognitive deconstruction.

According to David Rudd Theory on fluid vulnerability model: The episodes of suicide are time based. It triggers the episodes with duration and severity of event. There is an arousal create high risk of suicide. The risk may vary from person to person the intensity of burden.

Some of the risk factors are-

1. Suicidal episodes are time-limited.
2. Risk factors that both trigger a suicidal episode and determine the duration and severity of an episode are fluid.
3. Imminent risk cannot endure beyond periods of

heightened arousal.
4. Baseline risk varies from person to person.

Methodology

Aim- To understand the higher suicidal risk factors in males and females (adolescents) due to sociol economic status.

Hypothesis- Females have higher suicidal risk factors than males.

Design- Between group design.

Tools used in study in points

1. Life Satisfaction Scale
2. Hopelessness scale
3. Beck Depression Scale

Sample - 30 boys & 30 girls. This contains total of 60 which includes man and women in each group 30. The age range is 20- 50. Random sampling was used in the study.

- Between group design was used

Procedure of Data Collection- In the initial stage, we explained the administration of test to the participants and general information was taken (like age, educational qualification etc). The next stage was consisting of administration of rating scales, viz Life Satisfaction Scale, Hopelessness Scale and Beck Depression Scale. Each person took 20-50 minutes (approx).

Results-

Group Statistics

Group Statistics[a]					
	Group[a]	N[a]	Mean[a]	Std. Deviation[a]	Std. Error Mean[a]
Age in females and males[a]	male[a]	30[a]	27.7333[a]	5.81872[a]	1.06235[a]
	female[a]	30[a]	26.6333[a]	5.46767[a]	.99826[a]
ed in males and females[a]	male[a]	30[a]	1.667[a]	.7112[a]	.1298[a]
	female[a]	30[a]	1.400[a]	.5632[a]	.1028[a]
in males and females[a]	male[a]	30[a]	12.2667[a]	3.02784[a]	.55281[a]
	female[a]	30[a]	12.1667[a]	2.43655[a]	.44485[a]
depresion in males and femlaes[a]	male[a]	30[a]	29.2000[a]	6.74869[a]	1.23214[a]
	female[a]	30[a]	33.0667[a]	8.90150[a]	1.62518[a]
life satisfaction in males and females[a]	male[a]	30[a]	12.0000[a]	1.92980[a]	.35233[a]
	female[a]	30[a]	11.6333[a]	2.48420[a]	.45355[a]

a. Footnote

Discussion- The above table shows that there was a significant difference found in depression at 0.05% level, but when the data was less compare to more data there is significance in depression of male and female are the same 0.063 at 0.05%. So the hypothesis rejected.

Conclusion- The aim of the study was to find out that higher risk of suicidal in females has than that of males is rejected.

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