

## Section - A

4. Adaptation is a more practical way forward than mitigation to address climate change challenges.

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It's been more than 2 years after the first wave of COVID-19. Although the fear of COVID has reduced ~~was~~ yet none of us would want to risk getting a COVID infection. Even though we know that we can cure ourselves of COVID, we still try to avoid getting sick and take necessary precautions like wearing a mask, sanitising our hands, etc. have become a part of our lives. Reason being, — "Prevention is better than cure."

The same applies to another huge looming challenge ~~is~~ the

current times, i.e., climate change.

Adaptation is better than mitigation since mitigation, inevitably means, damage is done and we are trying to reduce the intensity and impact of the damage.

Whereas adaptation pre-empt this stage & prevents disasters.

Global warming is probably the most famous or rather infamous effect of climate change that is known to all. And a direct consequence of Global warming is the melting of glaciers which in turn decreases the albedo of the earth's surface leading to a vicious cycle of positive feedback

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cycle for global warming.

Melting of glaciers ~~has~~ <sup>causes</sup> a two fold problem. Firstly, it causes an excess surge of water during summers leading to Glacial lake outburst flood, low stream river flooding, etc. Second, it causes a scarcity of water during winters due to low glacial cover. Thus causing droughts.

The above challenges can be mitigated by, building flood levees, storing water during excess times and reusing it during scarce times.

But such mitigation would not completely eliminate risks of

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floods & droughts, nor would it cost any less. A simpler alternative ~~is~~ ~~to~~ would be to reduce the use of fossil fuels and coal to reduce CO<sub>2</sub> emissions by shifting to renewable resources like solar, wind, geothermal power, etc.

In a similar way, instead of mitigating the disaster of cyclone due to sea surface warming; sea level rise in coastal areas due to glacial melting; decreased rainfall in Europe due to weakening AMOC (Atlantic Meridional Overturning Circulation); cold waves in North America due to weak polar vortex, etc. We can focus on the Adaptation part of the disaster management.

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Adaptation measures could include afforestation, watershed management, rain water harvesting, organic farming, drought less water intensive farming, circular economy, etc.

While it is undoubtedly true that the above adaptation measures will yield positive results, we shouldn't forget that the emissions caused for more than a 100 years  $\frac{1}{2}$  now has already started making its impact.

Hence, <sup>though</sup> adaptation is important, mitigation too is indispensable to address the effects of the damage caused until now.

Also, there's another challenge associated with mitigation. Just as one would require to stay indoors during lockdown and follow WASH principles (Wash, Sanitation & Hygiene). And this would be a feasible option for a migrant worker employed in construction sector as it would be for an IT company employee.

Similarly, the developed countries can afford to use advanced technologies and invests huge amount of money for clean technology. But, in a developing country like ours, we need coal & fossil fuels, we cannot afford clean & advanced technologies for ~~use~~ renewable energy generation or waste treatment, etc.

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Also, India needs to consume high amounts of energy to provide food, for 130 crore mouths, shelter, transport, health, etc. Hence, for developing countries to be able to efficiently adapt to climate change, developed countries would have to share advanced technology and fund the projects to develop clean technology.

In this regard, we've had multiple international collaborations such as the UNFCCC CoP.2 like the Paris Agreement, recent Glasgow summit, Montreal Protocol, Kigali Amendment, Kyoto Protocol, Common But Differentiated Responsibilities, etc. Yet, due to a variety of national interests overpower global interests of protecting the global commons.

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Adaptation is not just a better option with respect to international agreements or national commitments, it applies to each one of us at our familial and individual levels too.

For instance, one can install an Air Conditioner to cool one's house during summer or one can ~~build~~ get his/her house built in an energy efficient way such as, more use of white paint to reflect heat & light; use mud bricks instead of concrete <sup>hollow</sup> bricks to keep the house cooler; have natural ventilation to use less lights & ACs, etc.

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Similarly instead of constantly complaining of pollution in the city and crossing to protect oneself <sup>sitting alone</sup> behind closed windows of an AC car, one can choose to take the public transport or car pooling or shift to electric vehicles to reduce air & noise pollution.

~~That we should improve the~~  
Just like we compare the capacities of developed and developing countries, we should be mindful enough to compare our individual capacities with respect to adaptation. An individual in rural India without continuous access to electricity and inability to afford LPG might be

forced to use wood for cooking & heating purposes. But us, being educated and aware of the consequences of our actions should take a greater responsibility towards ~~mitigation~~ adaptation.

Just as small drops of water coalesce into a huge ocean, small actions of millions of individuals over many years can bring about an ocean of a change.

Let's first shed the attitude that these actions are not ~~eco~~ just eco-friendly as in, we are not performing any great altruistic action by to save the earth and

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humanity. We're merely saving ourselves since it's a basic fact that we've still not found an alternative home to earth & our survival depends on her survival.

Let's start by turning off the tap when brushing our teeth, turning off the lights while leaving a room, walk or cycle when distances are small, use public transport, plant more trees in the neighbourhood and reduce, reuse & recycle the waste we generate.

Be it on an individual, national or global level, <sup>adaptation</sup> ~~restoration~~ is ~~not~~ always more practical, &

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economical than mitigation. And each of us need to understand that we have common but differentiated responsibilities and stop the game of passing the ball and <sup>start</sup> taking actions.

Because, no matter whom we blame, we all are going to suffer or die in this together. And if global warming reaches the extent of melting all glaciers and flooding the earth, there won't be a Noah's Ark or a Matsyavatore to protect us from it.

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## Section - B

8. We cross infinity with every step; we meet eternity in every second.

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A constant thought that always ~~to~~ amazes me is, I live within my house, this house is in my city, my city is in my state, my state is in India, India is on Earth, Earth is in the solar system, solar system is in within the Milky Way Galaxy & the Milky Way galaxy is within the Universe or space, and where is the space is in? What shape is space? What is outside space? Is it an endless ~~or~~ loop? A continuum of space time fabric?

I still haven't found a concrete answer after all these years. Yet, one thing we do know is, as per our current understanding, the space is unlimited, it's infinite.

In this infinite space, with each step, we cross infinite possibilities, infinite roads fork out in front of us. at every step and either consciously or unconsciously, we choose one of those paths.

And the journey of our lives is nothing but travelling across time.

We have no idea ~~was~~ where we came from, we don't know where we are going to reach at the end.

Emily Dickinson ~~calls~~ in her poem

"Because I could not stop for death",  
calls this end 'the eternity'.

So in essence, every second we are  
getting closer to this eternity.

Therefore, <sup>when</sup> there are infinite  
possibilities in this space, why limit  
ourselves and if we are all headed  
towards eternity, why afraid to take  
the next step. Let's make ourselves  
limitless and ~~perfect~~ <sup>eternal</sup> in ~~this~~ our  
journey through this space time  
fabric.

Quantum mechanics is proof  
of this limitlessness and eternity.

The principle of superposition tells  
that any particle like <sup>an</sup> electron or  
photon could be have both a positive

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and a negative spin at the same time. Quantum Computing uses the same principle to build qubits which can be both 0 & 1 i.e., on & off at the same time like Schrodinger's cat. When we take about <sup>such</sup> 64 qubits, i.e., the size of our regular laptops, we would then be able to explore  $2^{64}$  possibilities simultaneously on a quantum computer.

On the other hand the concept of entanglement, dissolves the very existence of time, by transferring information between two <sup>entangled</sup> particles instantaneously. This proving the theory that sp light is the fastest travelling entity as false. Because of such astounding results, Einstein called this phenomena

"Spooky action at a distance".

But the ability to explore endless possibilities and dissolve time and becoming eternal is not just limited to sub-atomic particles on a quantum level. Humans, having been made up of those very particles, we too possess this ability.

"The man who knew infinity" Ramanujan, the famous mathematician is said to have given numerous solutions to through mathematical equations and scientists are till date finding the questions to those answers. This is a man, who

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was limited by his circumstances but his grit ~~and~~ <sup>& talent</sup> attitude, made him limitless and his works noted in the 'Lost book of Ramanujan' has made him an eternal genius.

Similarly, in ancient Greece Socrates ~~was~~ fearlessly drank poison, for he knew that death was only for his body, but his ideas & philosophies had no death or end, they were going to be immortal and eternal.

But not every human will be able to explore both, the expanse of space as well as time. Mohammed Tughlaq who is famous

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for his failed experiments was in fact a philosopher king who sought to explore the infinite possibilities in every step of his such as the token currency experiment, capital change experiment. But his inability to understand the dynamics of time pressure prevented him from accounting for futuristic problems causing him to fail.

On the other hand, there are some who believe in external existence of their ideals but fail to explore the infinite possibilities in their steps.

India, in the Pre-1990s i.e.,

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in the pre-LPG era believed socialistic ideals were eternal. ~~But~~ <sup>And</sup> limited itself from exploring the infinite possibilities of an open globalised world. Rectifying this mistake post 1990 has enabled us to explore new features for India during its Amrit kaal for the next 25 years.

~~But~~ while it's indeed true that we shouldn't limit ourselves from exploring different possibilities of life, it's <sup>also</sup> not always bad or detrimental to have some self imposed limits.

For instance, Gandhiji's limited his means of struggle to truth

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and non-violence. This is because, he believed means should be as pure as ends. Had Gandhi not <sup>self</sup> imposed this self limit on himself, his ideals wouldn't have probably been eternal today.

This in turn <sup>respr</sup> once again proves that, this infinite space accomodates all possibilities including that of limited possibilities within itself.

All, or at least most of us consider ourselves as limited by our space & time. And according to us, the only one who is beyond time & space is the Almighty God.

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The Bhagavad Gita says, the God is "Anor vasiya, Mahato Mahiyam" i.e., the god is smaller than the smallest and greater than the greatest; and he is "Na Jayate Mriyate va Kadachin" i.e., he ~~was~~ is ~~not~~ neither born, nor dies, at any time.

Thus, it means god is beyond all space and time. And ~~so~~ Shankaracharya's Advaita vedanta says that if god is the fire, we are all sparks of the same fire. By inference, if god is beyond time and space, then so are we.

We all were once a part of the same singularity before the big bang. That single

Source of energy is today expressing itself across time and space as various forms of ~~energy~~ lives. And in the end, ~~if~~ if there is anything called an end, we will all once again reach that common singularity of space and time.

Our time on earth is thus a gift to explore the infinite possibilities of space and the eternal existence of time. And if there's any limit on us in this journey, it's only our own minds. We are, ~~the~~ a part of the universe itself or God himself ~~expressing~~ taking the form of a human,

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We are not just philosophically, but even literally, limitless.

We started this essay by exploring the fabric of space & time using Quantum Mechanics, the logical flow gradually led us to the concept and existence of god. ~~which~~ This reminds me of a quote by Heisenberg — "the first gulp from the glass of natural sciences turns you into an atheist, but, at the bottom of the glass, God is waiting for you."

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