



H.R. COLLEGE
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FINNACLE



SOLAR ENGINEERING AND ITS IMPACT ON CLIMATE

How solar geoengineering is impacting the climate | p.22

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If you only read one book in July, make it this one! p.26

IS 'FEMTECH' THE NEXT BIG THING IN HEALTHCARE?

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Nirmala Sitharaman Announces Major Economic Relief Measures

READ TIME: 4 MINUTES

India has been particularly affected by a brutal second wave which is overwhelming the public health system in large parts of the country. This enormous wave is undermining the sharper than expected rebound in activity as seen during the second half of the 2020-21 financial year. Given this fluid situation, India's growth outlook in 2021 is highly fragile. Despite these odds, India's GDP is expected to grow to 7.5% in 2022, as projected by the World Bank.



Union Finance Minister, Nirmala Sitharaman announced major economic relief and reform policies worth Rs. 6.29 lakh crore, on Monday, the 28th of June, to revive the country's economy. Out of the eight relief measures, four are newly introduced and eight other measures related to trade and employment were also announced. The minister announced job benefits, loan guarantees for covid-affected sectors, such as tourism and an extension for the PLI scheme for large electronic manufacturing. The relief measures are as follows:

a) Rs. 1.1 Lakh Crore loan guarantee scheme for Covid-Affected Sectors

Under this scheme, Rs.50,000 will be allocated to the healthcare sector and the remaining Rs.60,000 to other sectors. This is aimed to increase medical infrastructure in the unserved areas. The loan guarantee covers for new medical infrastructure projects in non-metropolitan cities. These projects include public as well as private hospitals with a maximum loan of Rs.200 crore and 3 years of guaranteed duration.

b) Additional Rs. 1.5 Lakh Crore for ECLGS

Rs. 1.5 lakh in addition has been announced for the Emergency Credit Line Guarantee Scheme as a part of the Atma Nirbhar Bharat Package in May 2020.

c) Rs. 23,220 Crore for the Public Healthcare Sector

The funding of Rs.23,000 crore is a separate announcement under the credit guarantee scheme for the healthcare sector which aims to increase the availability of oxygen, ICU beds and other medical equipment to increase testing capacity, supportive diagnostics, strengthen capacity surveillance and genome sequencing.

d) Rs. 33,000 Crore for NEIA and Rs. 88,000 Crore for Export Insurance Account

An additional corpus has been announced to the National Export Insurance Account (NEIA) over 5 years to underwrite additional Rs. 33,000 of project exports. The NEIA trust has proposed Rs. 88,000 crore to export insurance cover. Less creditworthy borrowers and supporting project exporters are provided with buyer's credit by the EXIM bank.



e) Financial support to over 11,000 tourist guides, tourism, and stakeholders

To restart businesses affected by the Covid-19 pandemic in the tourism sector; working capital or personal loans will be provided under the new loan guarantee scheme. It covers 10,700 regional level tourist guides recognized by the Ministry of Tourism and the State Government.

f) Free tourist visa to 5 Lakh tourists

Once the Visa issuance restarts, the first 5 lakh visas will be issued free of charge. This scheme is applicable till 31st March, 2022 or until the issuance of 5 lakh visas.

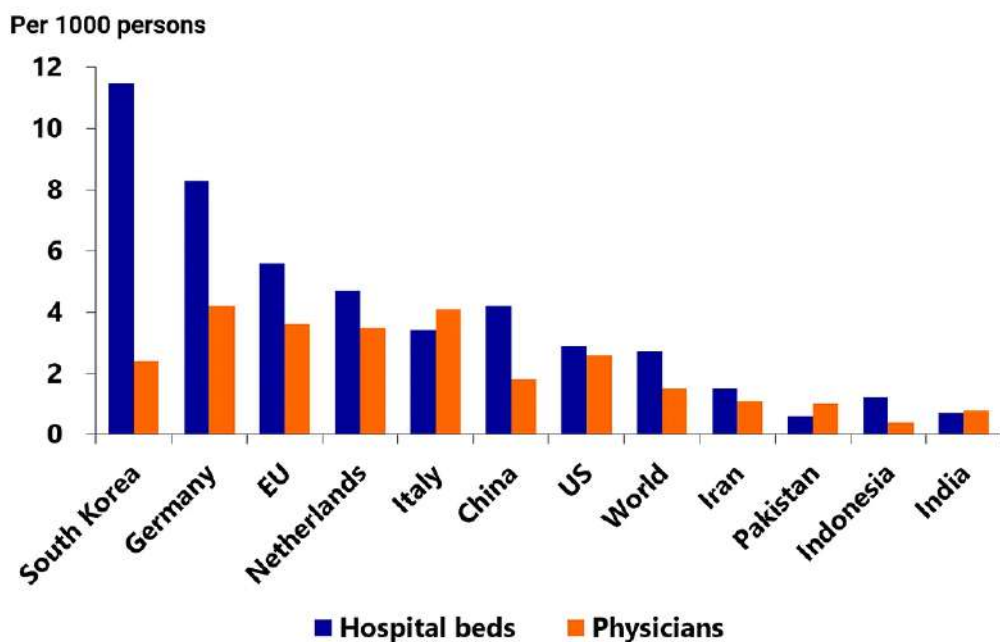
g) Extension of Atmanirbhar Bharat Rozgar Yojana

The Atma Nirbhar Bharat scheme has been extended to 31st March, 2022. The Centre has also extended the wage subsidy scheme for nine more months to increase employment under the EPFO. The move will increase the take-home pay of new employees or those who are rejoining after being retrenched during the pandemic.

h) New streamlined process for PPP projects and asset monetization

For the appraisal and approval of PPP proposal and monetization of core infrastructure assets a new policy will be formulated. Rs.3.03 Lakh have been announced to revamp for infrastructure creation and adjoining activities. Additional Rs.19,041 Crore have been provided for BharatNet and Rs.77.45 Crore to NERAMC.

Healthcare Is Less Abundant In India Compared To Global Average



Source: World Bank

Bloomberg | Quint

These reforms will create global supply chains, tariff protections for key industries, further relaxations in foreign investment rules and schemes aimed at urban unemployment. The money can be used towards the focused development of global value chains in sectors such as automobiles, electronics, pharmaceuticals, textiles, food processing and such. The Scheme will also pay Rs. 85,414 to the farmers. Pradhan Mantri Gareeb Kalyan Anna Yojana has been extended due to the second wave of the pandemic. This new scheme will be more focused on short-term emergency preparedness with emphasis on pediatric care.

Experts state that the new loan guarantees and higher cap for the Emergency Credit Line Guarantee Scheme will only provide temporary relief and will fall short of boosting economic growth over a longer period. India's relief packages have differed significantly from the ones announced by other major economies, which offered financial aid to households, businesses and people that lost their jobs. The only direct relief has come in the form of free food grain distribution, while all other measures have been heavily focused on low-cost lending. Many economists are stressing the need for direct stimulus like cash transfers to poorer households that have suffered during the pandemic.

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Sources:

Business Insider, Economic Times, Financial Express, LiveMint, India Today and The Times Of India.

Adani loses \$9 billion of personal wealth in worst market rout

READ TIME: 4 MINUTES

India's billionaire businessman Gautam Adani earned more than Jeff Bezos, Mukesh Ambani and Elon Musk in 2021. Adani added over \$43 billion taking his net worth to \$77 billion. This has been witnessed in the past year, amidst a pandemic, capping the best 12 months. An upsurge in Adani's net worth was fuelled by a phenomenal rise in the market capitalisation of Adani Group companies. Blue-chip names like the French oil giant Total SE and Warburg Pincus LLC have plowed money into Adani's companies. Adani has also invested a huge amount of money in Australia and was granted permission to start work on an Australian coal mine after a wait of over 9 years. Subsequently, he lost more money than anyone in the 4th week of June 2021. The 58 year old tycoon's personal fortune tumbled by about \$13.2 billion to reach \$63.5 billion.

ADANI
from ideas to solutions



The promoter group led by Gautam Adani and his family members hold 74.92 per cent of the total shares in Adani Enterprises Ltd, a company with a market capitalisation of Rs 1.68 lakh crore as of 15 June. Adani Enterprises, the group's flagship firm has seen gains as high as 952% in the last year. As of 15 June, the shares of Adani Transmission were up 582 per cent and Adani Total Gas' share price was up 975 per cent over the last one year. Shares of six listed Adani firms lost over Rs 2 lakh crore in the last one week, after most of them touched their 52-week high. The share fall started on Monday, June 18 after The Economic Times reported that India's national share depository froze the accounts of three Mauritius-based funds because of insufficient information about the owners. The report said that the bulk of the holdings of Albula Investment Fund, Cresta Fund and APMS Investment Fund valued at about \$6 billion are shares of Adani's firms.

Following this debacle, Adani group said that the report is “blatantly erroneous” and that it was “done to deliberately mislead the investing community.” Investors saw the red sign and decided to exit. The Mauritius offshore funds hold more than 90% of their assets under management in Adani group companies, according to Bloomberg Intelligence. Also these three Mauritius-based funds are registered at the same address in Port Louis, giving rise to suspicions. They have a 6.82% stake in Adani Enterprises, 5.92% in Adani Total Gas, 8.03% in Adani Transportation, 3.58% in Adani Green, and 8.03% in Adani Transmission .In identical exchange filings the same day, Adani group companies said that they had written confirmation from the Registrar and Transfer Agent that the offshore funds’ demat accounts in which Adani shares were held “are not frozen.” Even after the clarification, the shares continued to plunge. Adani’s net worth plummeted by over \$13.2 billion in 4 days. The market rout comes at a time when the Indian tycoon was closing the gap with Mukesh Ambani potentially becoming Asia’s richest man. The gap between his and Mukesh Ambani’s notional value presently stands at over \$15 billion.





The future—

After spending two decades building a business empire centred around coal, Indian billionaire Gautam Adani is now looking beyond the fossil fuel to cement his group's future. His ambitious plans are getting a boost from Prime Minister Narendra Modi. In less than two years, Adani has gained control of seven airports and almost a quarter of India's air traffic. He has unveiled plans to boost his renewable energy capacity almost eightfold by 2025, positioning himself to benefit as the government debates ambitious climate targets that would cut net greenhouse gas emissions by mid-century. Recently, he won a contract to co-develop a port terminal in Sri Lanka. Adani Enterprises Ltd. signed a pact last month with EdgeConneX to develop and operate data centers across India. Adani has emerged as India's infrastructure king, diversifying from mines, ports and power plants into airports, data centers and defence, sectors that Prime Minister considers to be pivotal for meeting the country's economic goals.

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Sources:
Bloomberg, Angel Broking,
Hindustan Times, Startuptalky,
Indian Express

WHY BANGLADESH-NOT INDIA OR PAKISTAN IS DESTINED TO BE THE ECONOMIC STAR OF SOUTH ASIA?

READ TIME: 4 MINUTES

Growth of Bangladeshi economy and industry:

When it first became a country, in 1971, Bangladesh was incredibly poor. The GDP growth rate was as low as -14%, political instability was rife, and the nation was devastated by floods, Bangladesh was born amid famine and war; millions fled to India or were killed by Pakistani soldiers. It was assumed that the country would fail to grow, due to which it was famously called a “basketcase”. Thus, George Harrison and Ravi Shankar organized the first-ever super-benefit to raise money for UNICEF relief work in the struggling country.

Things have moved. Bangladesh now has an average growth rate of 8% which is very well above the Asian average, Asian Development Bank (ADB) figures show. Bangladesh has been classed by the United Nations as one of the world’s least developed countries (LDCs) since 1975, but its current trajectory means it is likely to shed that description by 2024.



Bangladesh's Cabinet Secretary told reporters that GDP per capita had grown by 9% over the past year, rising to \$2,227. Pakistan's per capita income, meanwhile, is \$1,543. Today, Bangladesh is 45% richer than Pakistan. On the other hand, India's per capita income in 2020-21 was a mere \$1,947.

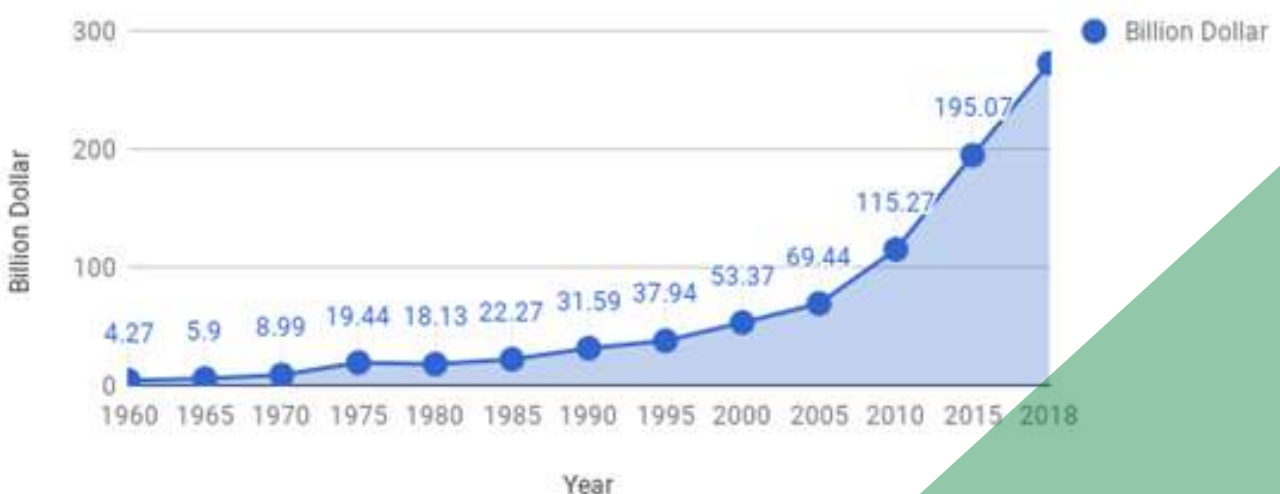
Causes of growth


Bangladesh's growth rests on three pillars: exports, social progress and fiscal prudence. Macroeconomic stability has been one of its founding cornerstones and that has helped the growth process to be sustained, and it also maintains exchange rate stability related to the Indian currency.

Bangladesh has maintained a public debt-to-GDP ratio between 30% and 40%. India and Pakistan will both emerge from the pandemic with public debt close to 90% of GDP.


Fiscal restraint has allowed Bangladesh's private sector to borrow and invest. The fiscal deficit is very much under control between 3.5-4.5% which is a very strong performance and that anchors the economic performance in terms of inflationary performance and exchange rate stability. Also, the exports have historically done very well. There is a double-digit growth, on average, for the last 30 years.

Yearly GDP (Gross Domestic Product) Growth of Bangladesh -bdnewsnet.







The garment trade that began in Bangladesh in the 1970s is now a \$30 billion industry. But the economy is diversifying. The services sector including microfinance and computing makes up 53% of the country's GDP.



The success of the IT industry is central to the digital transformation and ongoing economic growth of Bangladesh. It exports nearly \$1 billion of technology products every year. The country also has 600,000 IT freelancers



Remittances [from abroad] have done very well and have also worked as a countercyclical factor. Even during this pandemic, the remittance is at an all-time high. In fact, it is about 20% more compared with last year, same time. The Asian Development Bank said that despite the hit from the pandemic, the Bangladeshi economy is recovering fast. So, it is acting as very much of a solid shock absorber for our economic system and for the rural economy.



Bangladesh's economic transformation was driven in large part by social changes, starting with the empowerment of women. Thanks to efforts by the nongovernmental organizations Grameen Bank and BRAC, along with more recent work by the government, Bangladesh has made significant strides



toward educating girls and giving women a greater voice, both in the household and the public sphere. These efforts have translated into improvements in children's health and education, such that Bangladeshis' average life expectancy is now 72 years, compared to 68 years for Indians and 66 years for Pakistanis.

How did Bangladesh beat India

Minister of Bangladesh MA Mannan informed the country's cabinet that the per capita income of Bangladesh has now increased from \$2,064 to \$2,227. Bangladesh's per capita income is now \$280 higher than India's per capita income which is \$1,947. As post-COVID pick-up of the Indian economy is unlikely to be as smooth as that of Bangladesh. Bangladesh matches or bests India on many fiscal, economic and social indicators. Foreign aid is less than 2% of its GDP; it's no longer Kissinger's 'basket case'.

IMF's forecast for India is worse than RBI's projection of 9.5% contraction for the full fiscal. It is also gloomier than the forecast of the World Bank which predicted a decline of 9.6% for FY21. In addition, the World Bank also said that the situation in India is "worse than ever".

India's contraction of 10.3% is going to be the third sharpest fall in the world after Spain and Italy, the report said. It will also be the starkest decline among developing nations and emerging economies, it added.



Future of Bangladesh

Bangladesh's economic progress is certainly worth celebrating. However, a couple of caveats are in order. A reliance on a single sector the garment industry does not bode well for its economic future.

For example, an economic downturn in any of the countries that import its garments can exact significant costs on this industry. Nor, for that matter, can it indefinitely count on the receipt of remittances. As the coronavirus pandemic has demonstrated, migrant workers can be shed at a moment's notice.

Finally, For Bangladesh's economic success to continue, it needs to return to one of its founding principles, back when it was Kissinger's basket case: democracy.



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Article Designer: Mahek Mehta

Sources:

Economic Times,
Business Standard

Can China, Pakistan and India co-operate in Afghanistan?

READ TIME: 3 MINUTES

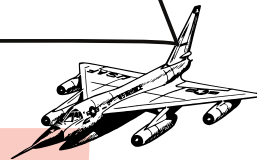
Taliban claims that it now has 85% of control over Afghanistan! Is Afghanistan all set to be the hub of Taliban's assault? Or will the trilateral cooperation bring peace in the land of Afghans?

Let us first delve into the history and why did US troops leave?

Having adopted Resolution 1267, the United Nations Security Council formed the so-called Al-Qaeda and Taliban Sanctions Committee, which links the two groups as terrorist entities and imposes sanctions on their funding. The Taliban, which rose from the ashes of Afghanistan's post-Soviet civil war, provides Al-Qaeda sanctuary for operations. Massoud's assassination was 'the curtain raiser for the attacks on New York City and Washington, DC.' Henceforth, the reconstruction of Afghanistan was called and the U.S. Congress approved over \$38 billion in humanitarian and reconstruction assistance to Afghanistan.

After 20 years, the U.S. left Afghanistan's Bagram Airfield hours after President Joe Biden issued a staunch defence of the US withdrawal by 11 September 2021. The United States and the Taliban signed a historic agreement on 29 February 2020, putting an end to the longest-running conflict in American history, which cost a hefty US \$2 trillion and approximately 2,400 American lives.

How does this withdrawal affect the interested nations?



The US withdrawal, paired with China and India's unwillingness to intervene in Afghanistan unilaterally, could mean that Pakistan might bear the entire onus of the imminent chaos resulting in a financially staggering Pakistan. Additional concern is that a Taliban dominated Afghanistan could invigorate Islamist terrorists which could become a Sisyphean security challenge for Islamabad. Furthermore, Pakistan's tribal belt, the Federally Administered Tribal Areas (FATA), where militancy and demands for self-determination have been persistent, lie near the Afghan border.



Hence, any instability in Afghanistan could deteriorate the pre-existing security conditions in Pakistan.

A prominent role for the Taliban in Afghan politics and the Islamism fostering across the region spilling over to Kashmir would be India's worst nightmare. Coupled with the seemingly incessant COVID-19 pandemic wreaking havoc in the country and the prolonged border disputes with China and the recent Improvised Explosive Devices (IEDs) used in the drone attack in Jammu, India cannot afford such a predicament.



Why is this matter of concern for us?

India has heavily invested worth more than US \$3 billion in developmental projects in Afghanistan. There are tremendous returns for India, but it doesn't have a chance to survive if not backed by shrewd policies.

While the U.S.-Taliban agreement states that the Taliban will prevent terrorist outfits from operating on Afghan soil, there is little clarity on how the agreement will be verified and enforced. With the growing influence of Pakistan's Inter-Services Intelligence Directorate, this shares an undeniable link with the Taliban, especially the Haqqani group. Unlike China and Pakistan, who are strategically engaged with the Taliban; India has always been repugnant to the same.

Foreign Minister Wang Yi's statements urging the UN to play a due role have made it apparent that the Chinese want stability in Afghanistan. China is Pakistan's closest ally and has repeatedly provided assistance on economic, military and technical matters, One Road One Belt Initiative as well dealing with the COVID-19 crisis are testaments of the same. China and Pakistan support each other's stances on the political front as well. Therefore, in alignment with China's wishes, Pakistan will quite certainly cooperate in Afghanistan.

However, India is uncomfortably placed at the heart of a geopolitical landscape – the India–China–Pakistan strategic triangle – that is beset with multiple strategic challenges. Even if we were to interpret China's attempts to engage in the reconciliation process in Afghanistan as commercially driven but benign, the perceived Indo-Pak rivalry in Afghanistan and the Sino-Pak partnership would effectively keep India out of the Afghan reconciliation process.



Let's look at what could be done?



While the three are the fiercest neighbours, they are deeply bound by the perils of formidable security and economic challenges of post-US Afghanistan. It is this shared desire for a stable Afghanistan which could sustain a faint possibility of China–Pakistan–India trilateral cooperation.



India shall remain engaged in Afghanistan should look to strategically explore opportunities for cooperation with China and Pakistan. This does not mean forcing competing interests to align; it means investing in a wider diplomatic initiative with the view to carve out areas of convergence. The creation of strong new bonds of regional cooperation and interdependence, could also help resolve three long-standing geopolitical problems in the region, in which countless people have been killed – terrorism, Kashmir and Afghanistan.



To realise this vision of a trilateral co-operation, two obstacles will have to be removed to prevent intense terrorism and unfriendly designs of extra-regional powers. As Franklin would have said, “If we do not hang together, we shall most assuredly hang separately.”

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Sources :
The Print, ORF, The Hindu

THE HOT DEBATE OVER SOLAR ENGINEERING AND ITS IMPACT ON CLIMATE

READ TIME: 3 MINUTES



INTRODUCTION

Individuals, communities, economies, and ecosystems around the world are experiencing the widespread, severe and in many cases irreversible effects of climate change. With each year of inaction on global efforts to address climate change and reduce greenhouse gas emissions, more frequent and more extreme events of climate change become more likely, drastically increasing the need to consider some high-risk approaches to avoid potentially catastrophic consequences.

SOLAR ENGINEERING GEOENGINEERING



Solar geoengineering, also known as solar radiation management, refers to a set of proposed methods for reflecting sunlight to rapidly cool the earth. It seeks to reflect a small fraction of sunlight into space or increase the amount of solar radiation that escapes back into space to cool the planet. It fails to address the underlying cause of climate change. Instead, it seeks to break the link between concentrations and temperatures, thereby reducing some climate damage.

How might Solar Geoengineering cool the Earth?

1. stratospheric aerosol injection (SAI)- SAI entails injecting tiny reflecting particles known as aerosols into the upper atmosphere to cool the planet.
2. Marine cloud brightening (MCB)—Marine cloud brightening, or MCB, would use sea salt to stimulate cloud formation over the ocean, which would also help reflect sunlight in the area.
3. Space-based technologies- By positioning sun shields in space, it would attempt to reflect a small fraction of sunlight away from the Earth.
4. Cirrus cloud thinning- It would attempt to reduce the thin, high-altitude cirrus clouds, allowing the earth to emit more long-wave radiation into space.

Need for further research:-

According to the scientists in the new study, solar geoengineering may affect plant photosynthesis and limit the habitat range of animals adapted to living in colder climates.

While solar geoengineering may help to cool the planet, the consequences of abruptly ceasing it could be disastrous. According to a 2018 study published in *Ecology & Evolution*, suddenly discontinuing solar geoengineering could result in ten times faster global warming than if we had never used the technology. A rapid temperature rise could devastate ecosystems and result in a massive extinction crisis. Solar geoengineering may not solve some of the most pressing issues related to climate change, and it may exacerbate others.

Risk and Governance -

Given the ethical and environmental risks that these activities can pose, atmospheric experiments to evaluate these technologies deserve timely public scrutiny and debate. That is why, before solar geoengineering is tested outdoors, scientists and civil society must insist on governments putting in place mechanisms for oversight, rules for transparency in research, and ways to involve the public in decision-making about whether and under what conditions outdoor experiments can take place.

Should India tread carefully or go full steam ahead? -

Given the ethical and environmental risks that these activities can pose, atmospheric experiments to evaluate these technologies deserve timely public scrutiny and debate. That is why, before solar geoengineering is tested outdoors, scientists and civil society must insist on governments putting in place mechanisms for oversight, rules for transparency in research, and ways to involve the public in decision-making about whether and under what conditions outdoor experiments can take place.

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Writer- Nikunj Sureka

Editor- Nidhi Dhanani

Article Designer- Richa Dodeja

Sources :

WSJ, The Wire, UCS USA, Harvard Edu

Popular opinion: If you read only 1 book in July, make it this one

READ TIME: 4 MINUTES

There is always one book out there which resonates with you on a level that it gives you a whole fresh perspective towards life. Books have the power to bring change and that most certainly brings progress. So if you are gonna read a book this July, let it be this one. You might be surprised how it can change your whole life.

Ikigai: The Japanese Secret to a Long and Happy Life *By Francesc Miralles and Hector Garcia*

Ikigai is one of those unique books that stays with the reader. It focuses on the ways to live life to the fullest and understand how hope and expectations can be channeled.

- Lessons :

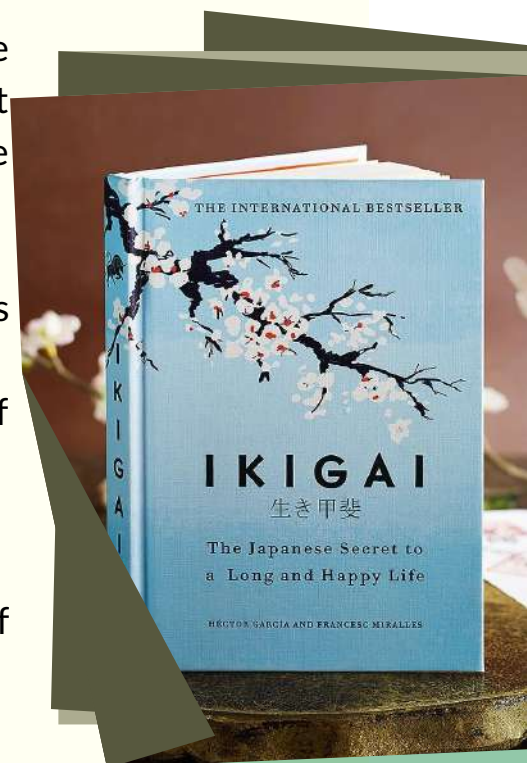
- 1) Always stay active. There should be no such things as retirement.
- 2) The rush is inversely proportional to the quality of life.

- Reason why students prefer this book:

- 1) Gives a wide perspective over Life.
- 2) Makes students understand the importance of present.

- Recommendations of similar book:

- 1) The things you can see only when you slow down



The 5am club By Robin Sharma

The book talks about how just owning your morning can elevate your life. Start your day with a purpose and a great sense of energy.

- Lessons/ Takeaways:

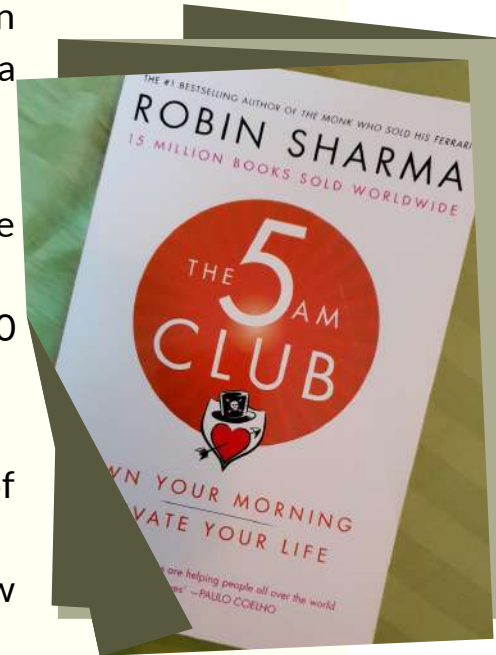
- 1) Self mastery can be achieved by understanding the four "inner empires" within ourselves.
- 2) Follow the 20/20/20 rule, that is, you should give 20 minutes on 3 highly valuable activities each.

- Reason why students prefer this book:

- 1) Students need to understand and learn the value of starting right and manage time.
- 2) This book educates about the inner kingdoms and how to master it.

- Recommendation of a similar book:

- 1) The monk who sold his Ferrari



Atomic habits By James Clear

The book is definitive guide to breaking bad behaviors and adopting good ones , showing how incremental, everyday routines compound into massive, positive change over time.

- Lessons:

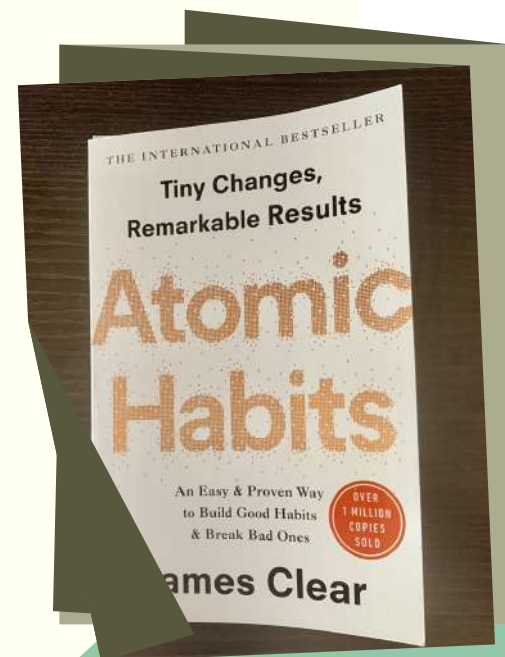
- 1) Habits are easy to form if it's based on building identity.
- 2) Showing up is as important as doing things.

- Reason why students prefer book:

- 1) It will help anyone to develop better habits which will lead to success.
- 2) The ideas and perspective in the book are new.

- Recommendation of similar book:

- 1) The 7 Habits of Highly Effective People



The Psychology of Money By Morgan Housel

The book examines personal finance through lens of human behaviour. It teaches how to have a relationship with money & make smarter financial decisions. It shows how your psychology can work for and against you.

- Lessons:

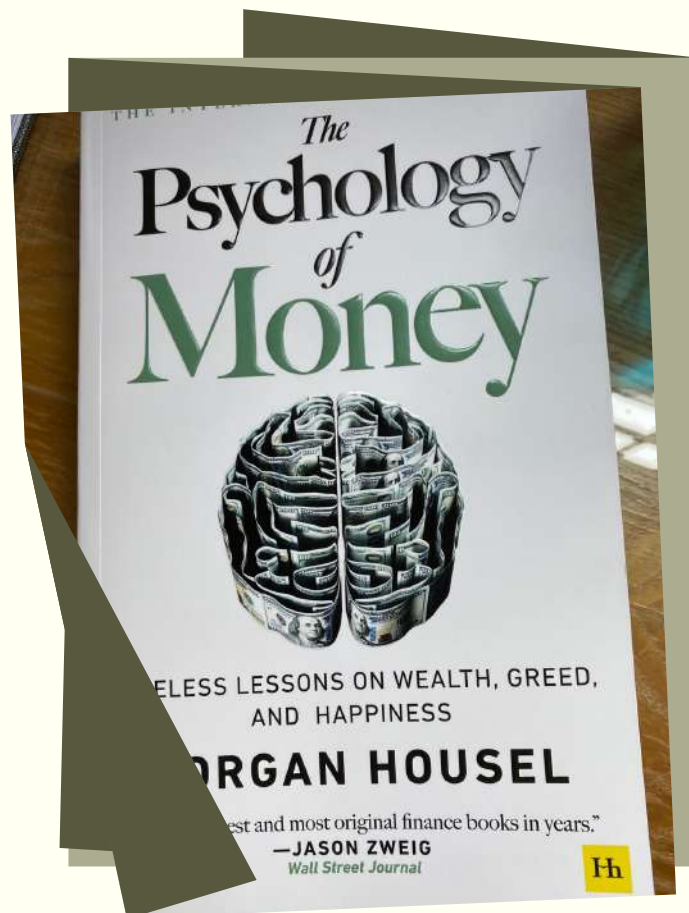
- 1) Financial success is not a hard science.
- 2) Luck or risk has part in every outcome of life.

- Reason why students prefer book:

- 1) It gives a unique perspective on money & finances.
- 2) It gives both money as well as some unrealised life lessons.

- Recommendation of similar book:

- 1) Your Money or Your Life



IF YOU READ ONLY 1 BOOK IN JULY, MAKE IT THIS ONE

SAPIENS

By Yuval Noah Harari

The book spans the whole of human history, from the very first humans to walk the earth to the radical – and sometimes devastating breakthroughs of Agricultural and Scientific Revolutions. We also learn how our ability to create imagined realities led to dominance over other species .

- Lessons/ Takeaways:

- 1) Storytelling and shared beliefs make large scale cooperation possible.
- 2) Money, imperialism & religion are forces that unified humankind into a global society.

- Reason why students prefer this book:

- 1) It conveys history of civilization and gives different perspectives on varied matters.
- 2) It will challenge your preconceived notions of what it means to be a homo sapiens.

- Recommendation of similar book:

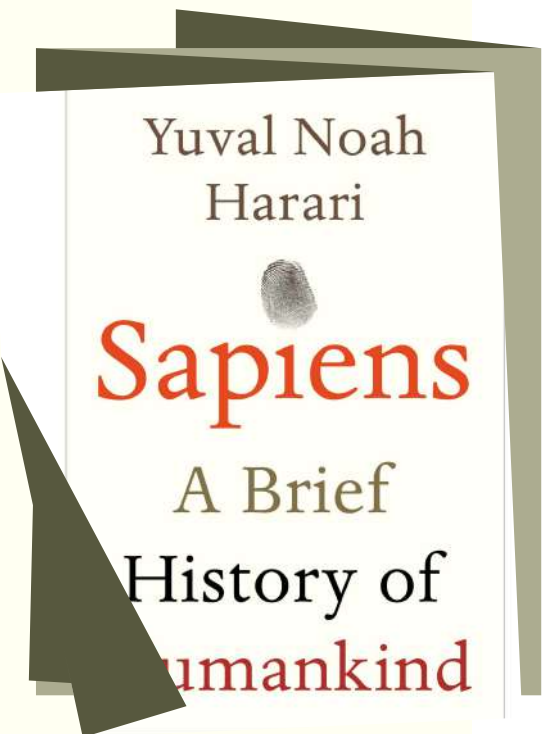
- 1) The Human Age

Conclusion :

By now you know, what lies ahead, the whole plethora of amazing possibilities that can be brought in your life through books.

Do let us know which book you read and your learnings from it on our pages

[in](#) [@](#) /finnacle_magazine



Writer: Karan Tiwari, Prachi Ramchandani

Article Designer: Nikunj Sureka

JARGON DECODED: Is 'FemTech' the next big thing in healthcare?

READ TIME: 4 MINUTES

The term 'FemTech' or 'Female technology' has become a buzzword across business and healthcare media outlets. It was coined by Ida Tin, founder of the Clue app. It is a term that defines tools that utilize tech solutions to enhance women's health in areas including general healthcare, pregnancy & post care, sexual wellness, reproductive system issues, and many more.

Why the sudden boom in FemTech?

As of now, there are more than 200 FemTech startups globally and many of them are entirely or partly led by women. According to research and consulting firm Frost & Sullivan, the FemTech market is expected to have a market value of \$50 billion by 2025. Factors responsible for the momentous growth:

- Accessibility with respect to cost and outreach programs in developing countries would increase the customer base.
- B2B partnering with large public hospitals, healthcare companies, public health entities, and NGOs, which have deeper distribution channels for mass screening and awareness campaigns.
- Customized revenue models based on the application of FemTech solutions, like renting devices for a limited period of use.

Few Remarkable FemTech Startups:

- KaNDY Therapeutics is developing non-hormonal treatment to help manage menopause symptoms.
- Juno Bio uses machine learning and bioinformatics to analyse and predict vaginal microbiomes' impact on female fertility.
- Cirql has created a non-hormonal contraceptive for women.
- Fempo has developed period underwear that doesn't require tampons or pads.
- Daye has developed a tampon that can also relieve period pain
- Caremother By Carenx is an India-based startup that offers a mobile platform for pregnant women to connect with gynecologists and also provides at door medical tests with portable medical kit.



- Carmesi is a startup which produces all natural & eco-friendly intimate care products for women.
- Sheroes is a women-only social platform, a safe, trusted, high-empathy and constructive space, powered by communities, a chat-based helpline, resources, opportunities and conversations.
- Kheiron is a British startup company specializing in breast cancer detection that uses machine learning technologies to develop and provide intelligent tools for radiologists, radiology department imaging centers & hospitals to give every woman a better fighting chance against cancer.
- Menstrupedia distributes comics in local languages across villages to spread awareness of female health among school going children.

Challenges faced by the FemTech Industry:

- The sector is highly underfunded, accounting for only 1.4% aggregated capital that flows into healthcare.
- Pitching female products to mostly male investors. Out of 10,000 angel investors in India, only 1% are women.
- Fear of introducing PINK TAX (an unfair levy applied to product when they are marketed to women.)
- Topics like menstruation, birth control, fertility and sexual wellness still considered a taboo.

Opportunities & future in FemTech industry:

A September 2020 report points out that the global FemTech market generated a revenue of \$820.6 million in 2019 and is estimated to grow at a CAGR 12.65%, reaching over \$3.04 billion by 2030. This growth is leading to a surge in the investments in the sector and it is estimated to receive investments of more than \$9 billion by 2024

In a country like India where women's rights and needs get very little focus, the evolution of FemTech can transform their quality of life.

India faces major challenges such as urban-rural divide, lack of access to diagnostic equipment and consumables, so lot of startups are now working towards plugging the gap through innovation. The evolution of FemTech is going to be incredibly impactful as it will make healthcare practical, personalized and affordable to suit Indian needs.

Seeing the technological developments & trends in this sector, it will surely be a win-win situation for all the stakeholders in the post pandemic world.

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Sources: Media Network, India Today, Times of India

Cryptocurrency goes Green : could "Proof of Stake" offer a solution to energy concerns?

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CRYPTOCURRENCY GOES GREEN - COULD PROOF OF STAKE OFFER A SOLUTION TO ENERGY?

Blockchain is a distributed ledger with no trusted intermediary or central governing body. The members in the network of the blockchain determine the validity of the transaction. How do they do that? How do they reach a consensus?

By using specific 'consensus mechanisms.' Among these, the Proof of Work (PoW) and the Proof of Stake (PoS) mechanisms are the most discussed ones.

Proof of Work	Proof of Stake
Participating nodes are called miners	Participating nodes are called validators or forgers
Mining capacity depends on computational power	Validating capacity depends on the stake in the network
Mining produces new coins	No new coins are formed
Miners receive block rewards	Validators receive transaction fees
Massive energy consumption	Low to moderate energy consumption

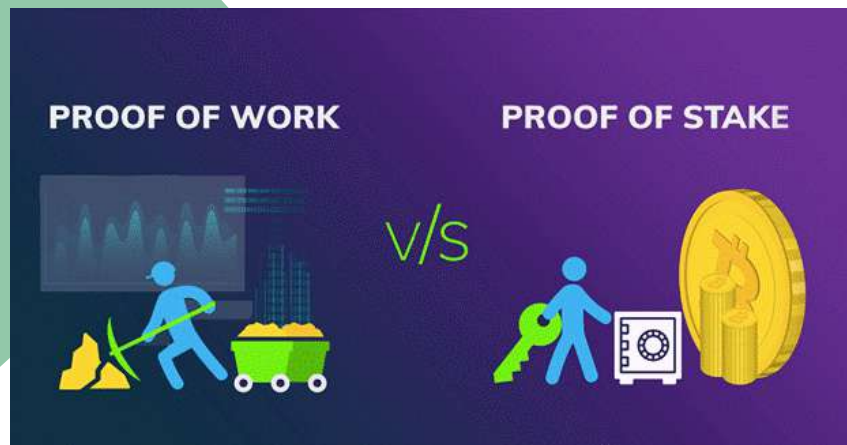
PROOF OF WORK AND THE PROBLEM WITH IT

In the case of PoW, you need to do some work. For example, you invest computing power. The more you invest, the stronger your voting rights in the system. Outside the crypto world, we can say that gold mining works on this concept- The more work you invest, the more gold you get.

Now, PoW has few technical problems but the main problem it has is that it consumes massive energy consumption.

PROOF OF STAKE

In the case of proof of stake, the vote is tied to your current existing participation (stake) in the network. Basically, you get more votes if you have more coins. So now you're probably asking "ok, but what do I vote for?" Simply put, you vote for who gets the next mined coins (or the next block). Unlike in proof of work, where specialized computing equipment like high-end graphics cards are needed, the proof of stake protocol can be run off of a laptop. The nodes are virtual spaces, not physical equipment.



IN PRACTICE: CLEANING UP THE CRYPTO MINING SPACE

Proof of stake is already working. Cardano is currently the most significant proof of stake cryptocurrency on the market. Other already functioning cryptocurrencies that use proof of stake include Polygon, Tezos, Polkadot and EOS. What about cryptocurrencies running on PoW mechanism?

Well, switching of the PoW mechanism to PoS mechanism is quite a complicated process. However, Ethereum is already working on adapting to PoS with its Ethereum 2.0 project which it says will drop its energy usage by over 99.99%!

THE ROAD AHEAD

Cryptocurrency mining demands an extremely high (and ever-increasing) amount of electricity. And while no one wants to slow down innovation, something must be done to protect the environment. As blockchain promises to take over the innovation of the world, those blockchain companies need to commit to doing it in a green way.



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