prajya

MONTHLY NEWS MAGAZINE FOR CHILDREN

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AIR INDIA PRIVATISATION

TATA

AIR INDIA

How to Make COMPOST

1

Choose a place

Ideal compost area is a dry shady spot near a water source with dimensions of 3 x 3 x 3 feet

2

Add the ingredients

The ingredients are those rich in carbon (brown materials) and those rich in nitrogen (green materials) Make sure large materials are chopped or shredded

3

Add water as needed

Make sure the pie stay moist, but not too wet (it should feel like a damp sponge)

4

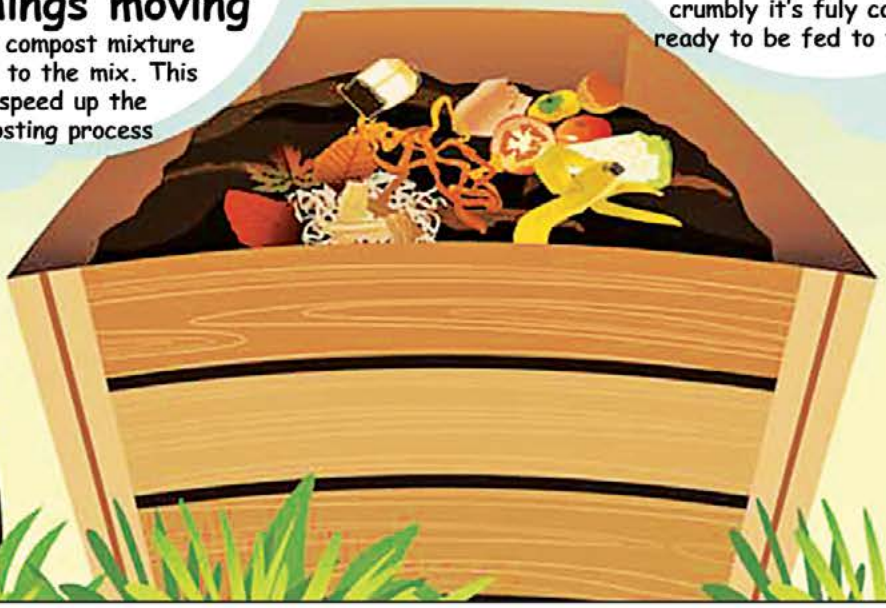
Keep things moving

Turn your compost mixture to add air to the mix. This helps speed up the composting process

5

Wait a while

When the compost no longer gives off heat and becomes dry, brown and crumbly it's fuly cooked and ready to be fed to the garden.



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FROM THE EDITOR'S DESK

If one could single out an achievement that put India on the world map all over again after being prejudicially identified as a land of snake charmers and unredeemable poverty, it is the giant strides we have made in the field of Information Technology. The resurgent Bharat is asserting itself in many other fields too through Atmanirbhar initiatives. We came up with our own vaccine. We stunned the disbelieving world into appreciative silence with 100 crore vaccinations in record time. The cacophony of criticisms was countered with determination and focus. We are trying to make our own arms and ammunition instead of importing them. Yes, we are catching them young - IIT Madras will handhold start-ups so we can leap high in developing space technology.

"Sometimes it is impossible to know where you are headed without reflecting on where you came from. Understanding your heritage, your roots and your ancestry is an important part of carving out your future."

Our potential lay unseen and unappreciated. We must unravel the past that was forcefully hidden away from us. We need to understand our own civilizational strength and ancient knowledge systems; rediscover our ability epitomized in the likes of Karikal Cholan whose Kallanai and water management skills have stood the test of time.

Read, reflect and revert with your thoughts and feelings.

We look forward to your support and suggestions.

- Editorial Team

Dear Readers,

There have been requests from quite a few readers for hard copies of Prajya. We understand that quite a high percentage of our young readers keep revisiting some articles, and a handy print version within reach induces one to read more often, highlight things and make notes. This also partly contributes to students spending less screen time. The Prajya team is happy to bring to you the issue in print.

However, there are few things that we want to be careful about:

A. We don't want to print more than what is required and

B. Keep the cost of the print version (plus postage) within reasonable limits.

Please note that the access to free online e-version will continue.

So, it will greatly help us if you could fill in the details in the link provided.

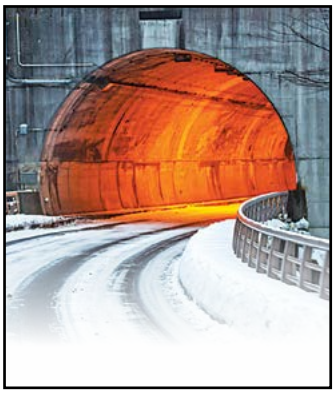
https://bit.ly/Parjya-PRN

Happy Reading !

Content

International Current Affairs

National Current Affairs



General Knowledge

Kum Priyadharsshini S

Oldest Human Footprints Found

The discovery of fossilised footprints in New Mexico reveals that early humans crossed North America roughly 23,000 years ago.

Now-submerged land bridge connecting Asia and Alaska

The first footprints were discovered in 2009 in White Sands National Park, a dry lake bed. Scientists recently analysed by carbon dating that the ancient seeds trapped on top of the footprints determined the approximate age of about 22,800 to 21,130 years.

These discoveries could help scientists solve a long-standing puzzle: when did people first arrive in the Americas after spreading from Africa and Asia? The majority of scientists believe that prehistoric migration took place across a now-submerged land bridge connecting Asia and Alaska. Based on multiple pieces of evidences such as stone tools, fossil bones and genetic analyses, other experts have given a range of plausible dates for human presence in the Americas, ranging from 13,000 to 26,000 years ago or more. Researchers assume that at least some of the footprints were made by children or teenagers walking by an ancient lake (10,000 years) during the previous ice age, based on their size.

They claimed that the fossil footprints provide more indisputable and direct evidence of a particular time and location than items, modified bones or other more common fossils.

DO YOU KNOW?

Ice age - a period of time during which much of the earth was covered with glaciers.

OLAF SCHOLZ

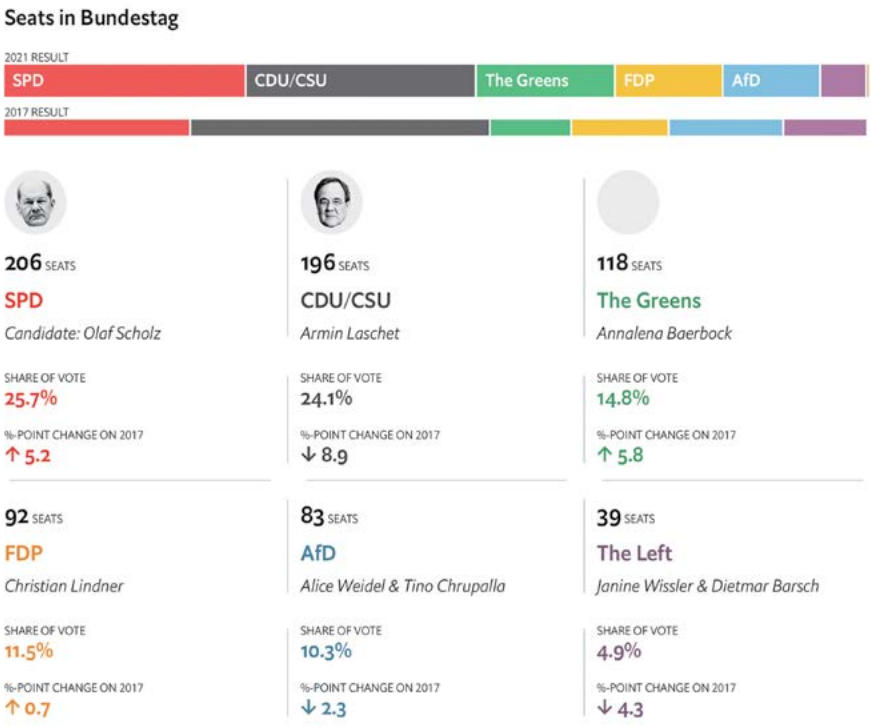
likely to be the new

CHANCELLOR OF GERMANY

Smt Vaishnavi V

Germany's federal election came to a close finish on 26th September 2021. The Social Democratic Party (SPD) took the largest share of the vote and is the largest party in the new Bundestag pushing the Christian Democratic Union (CDU) and the Christian Social Union (CSU) to the second place.

Both Olaf Scholz, the SPD's chancellor-candidate, and Armin Laschet of the CDU/CSU claimed a good chance to try to form a government. But the SPD had the edge in seats and votes. On 27th October it began its coalition negotiations with the Greens, who finished third and the liberal Free Democrats (FDP) on forming a "traffic-light" coalition (Red-Green-Yellow). Negotiations are due to last around six weeks.



DO YOU KNOW ?

Bundestag is the lower house in the parliament consisting of elected members.

Bundesrat is the upper house and is comprised of members of the Lander (State) governments and represents state interests.

The President is the head of State of Germany whereas the Chancellor is the head of Government and chief executive of Germany, as well as the commander in chief of the German Armed Forces during wartime.

Kum Kavya R

WORLD'S FIRST MALARIA VACCINE

The vaccine could prevent 5.4 million cases and 23,000 deaths in children younger than 5 each year

The World Health Organisation (WHO) approved the first Malaria vaccine based on the results from ongoing clinical trials in Ghana, Kenya and Malawi. RTS, S/AS01 malaria vaccine has been in the making for more than 30 years. Named **Mosquirix,** it is also the first ever vaccine developed for any parasitic diseases.

Malaria causes more than 4,00,000 deaths every year and two thirds of those are of children under the age of 5 in Africa. This vaccine was developed by African scientists with the help of multiple research and funding partners such as GlaxoSmithKline and Bill & Melinda Gates Foundation.

Mosquirix was engineered using the genes from the outer protein of ***Plasmodium falciparum*** (a malarial parasite) and a portion of a hepatitis B virus plus a mixture of chemicals to boost the immune response. The vaccine will be administered in 4 doses. Research for vaccines with higher efficacy rates are in various stages of trials.

A study conducted last year estimated that if the vaccine is administered to countries with the highest number of malaria cases, it could prevent 5.4 million cases and 23,000 deaths in children younger than 5 each year.

The vaccine is highly cost effective and has a favourable safety profile. "Using this vaccine on top of existing tools to prevent malaria could save tens of thousands of young lives each year," said WHO Director-General Dr Tedros Adhanom Ghebreyesus.

Shri Mrithyunjay GN

Nobel Prize WINNERS 2021

Each winner receives a gold medal, a diploma and a monetary award for their contributions in their specific fields.

Nobel prize is awarded "to those who have conferred the greatest benefit to humankind."

Established by Alfred Nobel to celebrate the top minds in the world in 1901, Nobel prizes are awarded in five distinct fields; Chemistry, Physics, Medicine, Literature and The Nobel Peace Prize. In 1968 the Sweden's central bank (Sveriges Riksbank) established "Prize in Economic Sciences in Memory of Alfred Nobel", adding another award to this prestigious set.

Each winner receives a gold medal, a diploma and a monetary award for their contributions in their specific fields. The 2021 recipients:

PHYSICS

Shared by Syukuro Manabe, Klaus Hasselmann & Giorgio Parisi "for the physical modelling of Earth's climate, quantifying variability and reliably predicting global warming" and "for the discovery of the interplay of disorder and fluctuations in physical systems from atomic to planetary scales."

Syukuro Mana

► Syukuro Manabe

Born in Japan, Manabe was interested in meteorology even in elementary school and he went on to be a pioneer in his field. Manabe's use of computers to model, simulate

and predict global climate change and document natural climate conditions changed climatology at a fundamental level.

► Klaus Hassleman

A German oceanographer and climatologist, after graduating in physics and mathematics from the University of Hamburg in 1955, he went on to do extensive research on ocean dynamics. His research on how change in climate affects ocean systems is unparalleled.

► Giorgio Parisi

As a theoretical physicist Giorgio Parisi's research focused on quantum field theory and statistical mechanics of complex systems.

His models have been used to chart and find the influences of seemingly chaotic and random events - from movement of flocks of birds to detecting and understanding disorder in planetary scales.

CHEMISTRY

Shared by Benjamin List and David W.C. MacMillan "for the development of asymmetric organocatalysis."

► Benjamin List

A German scientist, he is one of the developers of "organocatalysis"- a way to speed up chemical reactions using carbon-based catalysts. His genius is apparent from his ground-breaking research papers and numerous projects. His aunt Christiane Nusslein-Volhard won the Nobel Prize in Medicine (1995).

► David MacMillan

Scottish Researcher and Professor of Chemistry at Princeton University, MacMillan researched in the development of organocatalysis which has led to innovations, especially in the creation of complex natural products. MacMillan's and List's research has provided scientists a way to decode and discover how certain natural compounds of high complexity occur in nature.

LITERATURE

Awarded to Abdulrazak Gurnah "for his uncompromising and compassionate penetration of the effects of colonialism and the fate of the refugee in the gulf between cultures and continents."

This Tanzanian writer is highly celebrated in the field of postcolonial literature. His books have been praised for the depiction of the plights of refugees and asylum seekers forced to abandon their own country. This along with his multiple Man Booker Prize nominations cement him as one of the world's greatest African writers.

MEDICINE

Awarded to David Julius and Ardem Patapoutian "for their discoveries of receptors for temperature and touch."

► David Julius

Born in a Russian family in New York, Julius completed his undergraduate studies at the Massachusetts Institute of Technology (MIT). His interest in how natural products react with human taste and other sensory receptors forms the basis for the prize winning research, which provides a fundamental understanding of how the senses of taste and touch respond to temperature in human beings.

► Ardem Patapoutian

Patapoutian is an Armenian neuroscientist and molecular biologist. After graduating from the University of Beirut and emigrating to the USA in 1986 he became famous for his research in categorizing the receptors that detect pressure, menthol and temperature in the human body.

The Nobel Peace Prize

Awarded to Maria Ressa and Dmitry Muratov "for their efforts to safeguard freedom of expression, which is a precondition for democracy and lasting peace."

► Maria Ressa

Maria Ressa is a Filipino-American journalist and the first Filipino Nobel Laureate. She has immense experience as an investigative reporter and even won the Time's Person of the Year 2018 award for combating fake news. Through all her journalistic endeavours, Maria has been a strong supporter of freedom of the press and an advocate for human rights.

► Dmitry Andreyevich Muratov

Dmitry Muratov co-founded the pro-democracy newspaper Novaya Gazeta (1993) and has been vocal in his criticism of the Russian government, its corruption and human rights violations. In a country where speech and thoughts are censored, especially in matters pertaining to the criticism of the government, Muratov has upheld the freedom of the press and reported on some of the most historical conflicts in the Russian and Northern Caucasus regions.

The Sveriges Riksbank Prize in Economic Sciences

Awarded to David Card "for his empirical contributions to labour economics" and Joshua D. Angrist and Guido W. Imbens "for their methodological contributions to the analysis of causal relationships."

David Card | Joshua D. Angrist | Guido W. Imbens

David Card is a Canadian American labour economist and Professor of Economics at the University of California, Berkeley. He helped map how labour affected socio-economic development at a micro and macro level.

Joshua D. Angrist and Guido W. Imbens are Israeli and Dutch economists whose research broke down how causal relationships affect the labour market at large and how these changes can be monitored and tracked.

The Nobel Prize is an achievement that many people strive for but only a few achieve. Having contributed immensely to humanity with path breaking work, the winners deserve to be celebrated and held as role models.

Smt Sumathi Ramakrishnan

FUMIO KISHIDA
THE NEW JAPANESE PM

Fumio Kishida, former foreign minister, is set to become Japan's prime minister after winning the ruling Liberal Democratic Party's presidential election against the vaccination minister, Taro Kono. He replaces outgoing party leader Prime Minister Yoshihide Suga, who is stepping down after serving only one year since taking office last September.

Kishida called for growth and distribution under his "new capitalism". Results showed he had more support from party leaders who apparently chose stability over change advocated by Kono, who is known as a rebel.

Kishida would have a brief time to adjust to his new role, which became vacant after the outgoing prime minister Suga said he would not run in the party leadership race. He awaits a general election that must be held by late November, and must address a potential winter coronavirus outbreak and an economy struggling to emerge from the pandemic.

Shri Mrithyunjay GN

TURKEY ADDED TO THE FATF'S GREY LIST

The FATF grey list included Turkey following a three-day meet by the members on 21st October 2021.

FATF

The Financial Action Task Force (FATF) is an international task force founded in 1989 following a G7 summit to combat money laundering. In 2001, after the devastating terrorist attacks on the twin towers, the FATF expanded its mandate to include the growing problem of nations turning a blind eye towards entities financing terrorism.

The FATF sets standards for countries to ensure that they do not aid money-laundering and financing of terrorism; also, that international financial systems and trade are not affected by illegal activities. **Countries flagged as potential threats are put in grey and black lists to enforce harsher policies against financial crimes.**

The Blacklist and the Grey List

The blacklist is reserved for countries completely non-cooperative towards the global fight against terrorist funding and the grey list is for those under heavy scrutiny.

The FATF grey list included Turkey following a three-day meet by the members on 21st October 2021. This is significant because of the presence of Pakistan on the grey list.

Pakistan-Turkey Relationship

Pakistan and Turkey have had a close alliance since the 1950's and over the years their relationship has only become stronger. PM Imran Khan strengthened ties by joining Turkey and Myanmar to promote the idea of Islamic nation (Ummah). This is seen as a threat to the leadership of Saudi Arabia.

Pakistan continues to strongly support Turkey in international fora and Turkey in return provides support to Pakistan's claim on Kashmir.

Financial Action Task Force commenced a week of meetings

The FATF has given eight distinct reasons which shows that Turkey will have to fight against money laundering.

Pakistan has also come to rely on Turkey to keep its name out of the FATF Blacklist alongside its reliance on China and Malaysia to ensure that stronger crackdowns do not happen.

Reaction

Turkey has termed the actions of the FATF unwarranted and instead claimed they suffer the most from terrorism and do not fund it in any way.

The FATF has given eight distinct reasons which shows that Turkey will have to fight against money laundering to get off the grey list including stricter oversight, investigation of cases, regular audits and ensuring terrorist financing investigations and prosecutions are carried out quickly and efficiently.

What lies ahead

Turkey is a member of the G20 and also has the 17th largest economy in the world. Its economy is suffering from high inflation rates much like Pakistan. With two allies in the Grey list, the hope is that their diminishing socio-economic status and problems in the financial sectors will force them to confront the challenges and eventually put an end to them.

“ Pakistan has also come to rely on Turkey to keep its name out of the FATF Blacklist.

India, one of FATF’s 39 members has suffered extensively from the terrorist organizations funded by schemes not stopped effectively by the blacklisted and grey listed countries.

As long as India can prove credibly the threat it faces from terrorist organizations, countries like Pakistan and Turkey cannot get off the grey list. It will require constant vigilance and patience to ensure that these measures are taken and implemented effectively.

Col Shashidhar M.V (Retd)

MAKE IN INDIA INITIATIVE

THE LATEST DEFENCE PROCUREMENTS

The government targets to have 25 AI defence projects by 2024.

The Indian defence manufacturing industry is a significant sector for the economy. With rising concerns of national security, demand for defence equipment in India has been growing due to the ongoing territorial disputes with Pakistan and China respectively.

Over the last five years, India has been ranked among the top importers of defence equipment to gain technological advantages over hostile neighbours. To modernise its armed forces and reduce dependency over external dependence for defence procurement, several initiatives have been taken by the government to encourage 'Make in India' activities via policy support initiatives.

As the standoff between India and China continues post the Galwan clashes, the GOI has made attempts to improve military capability with a series of emergency procurements and acquisitions that have been necessitated by an inefficient defence procurement system where wild cost increases, missed project schedules and missed performance parameters in development continue to place servicemen's lives at risk and undermine India's national security.

Some failures result from overly complex acquisition processes, many others from an

unrealistic culture of demanding cutting-edge technology that either does not exist or simply cannot be afforded, and nearly all share the common thread of poor project management even after being contracted. Above all, most programmes take on average some two decades due to a complex procurement process. This had become the norm and is no longer sustainable.

Languishing in the strategically-vulnerable position for years, India now wants to build a major Defence Industrial Base (DIB) for self-reliance in weapon systems and exports to other countries within the next five years.

The Make in India initiative is all about design, development and production of state-of-the-art sensors, weapon systems, platforms and allied equipment for our Defence Services like arms and ammunition, tanks, armoured vehicles, heavy vehicles, fighter aircrafts and helicopters, warships, submarines, missiles, ammunition, electronic equipment, earth moving equipment, special alloys and special purpose steels etc.

Government Initiatives

Government formulated the 'Defence Production and Export Promotion Policy 2020' to provide impetus to self-reliance in defence manufacturing under the 'Aatmanirbhar Bharat' scheme. The ministry aims to achieve a turnover of Rs. 1 lakh 75 thousand crore (US$ 25 billion), including an export of Rs. 35 thousand crore (US$ 5 billion) in the aerospace and defence goods and services by 2025.

The government targets to have 25 AI defence projects by 2024. It is taking several steps to boost domestic defence manufacturing. Between FY17 and FY22 (until June 2021), the Indian government has signed approximately 264 contracts for defence equipment procurement, with 159 for armed forces equipment procurement alone.

GOI has announced a Def-Expo, the flagship military exhibition of India, (to be held in 2022) which would focus on projecting India as a defence manufacturing hub and a military hardware exporter.

India signed a Rs 21,000-crore (approx) deal with Airbus Defence and Space, Spain, for the acquisition of 56 C-295MW transport aircraft for the Indian Air Force.

EADS CASA C-295

India signed a Rs 21,000-crore (approx) deal with Airbus Defence and Space, Spain, for the acquisition of 56 C-295MW transport aircraft for the Indian Air Force (IAF) with 40 of them set to be made in India by private firm Tata Advanced Systems Limited (TASL). Till recently, all aircraft building was a monopoly of the public sector Hindustan Aeronautics Ltd (HAL).

The CASA C-295 is a medium tactical transport aircraft designed by the Spanish company CASA. It is capable of performing a wide variety of missions effectively: tactical and logistical transport, parachute and cargo drop, medical evacuation, and maritime patrol.

Giving a boost to "Atmanirbhar Bharat", this deal allows transfer of technology (TOT) to a private firm which will be manufacturing complete aircraft in the country. The project, which seeks to replace the ageing fleet of the Avros transport aircraft that first flew in 1961, has been in the works since 2010.

The aircraft, which has a 5-10 tonne capacity, is capable of operating from semi-prepared strips and has a rear ramp door for quick reaction and para dropping of troops and cargo. It will give a major boost to the IAF's tactical airlift capability, especially in the Northern and North-Eastern sector and Andaman & Nicobar Islands.

Indian Army Armoured Corps is one of the biggest and powerful armoured corps in the world with around 4300 tanks and 8700 armoured vehicles.

ARJUN MK -1A MAIN BATTLE TANK(MBT)

Indian Army Armoured Corps is one of the biggest and powerful armoured corps in the world with around 4300 tanks and 8700 armoured vehicles. Tanks and armoured vehicles can play a vital role in land warfare. It was the tanks which helped Hitler to capture Paris. India currently holds 5th rank in total combat tanks strength list. Presently, Indian Army operates Russian made T-72 Ajeya, T-90S "Bhisma" and T-90M tanks followed by Indian Arjun Main Battle Tank (MBT).

The Ministry of Defence (MoD) has placed an order for $1.02bn (Rs75.23bn) to procure 118 Arjun Mk-1A MBTs. The Arjun Mk-1A is the new variant of Arjun Tank developed by the Combat Vehicles Research and Development Establishment (CVRDE) and other DRDO laboratories. The Heavy Vehicles Factory (HVF) in Avadi, Chennai, India, will manufacture the MBTs.

The order is expected to open manufacturing opportunities for 200 Indian vendors, including micro, small and medium-sized enterprises (MSMEs).

MBT Mk-1A is designed to enhance fire power, mobility and survivability, infused with 72 new features and more indigenous content from the Mk-1 variant.

Known as the "hunter killer", the latest version is equipped with a massive 120 mm rifled gun and Kanchan armour, making it the

The Light Utility Helicopter (LUH) along with its derivative Light Observation Helicopter (LOH) was designed and developed for civilian and military applications.

most potent armoured system in the inventory of the army. It can take on the enemy during day and night conditions and in both static and dynamic modes. It is particularly configured and designed for Indian conditions and hence suitable for deployment to protect the frontiers in an effective manner. The Arjun Mk-1A also has a computer-controlled integrated fire control system with stabilised sighting that works in all lighting conditions. The secondary weapons include a co-axial 7.62-mm machine gun for anti-personnel and a 12.7-mm machine gun for anti-aircraft and ground targets.

LIGHT UTILITY HELICOPTERS

The IAF will soon procure six Light Utility Helicopters (LUHs), designed and developed by Rotary Wing Research and Design Centre of Hindustan Aeronautics Limited.

The Light Utility Helicopter (LUH) along with its derivative Light Observation Helicopter (LOH) was designed and developed for civilian and military applications.

The LUH is a 3-tonne class highly agile new generation light helicopter. It possesses a cruise speed of 235 km/h, maximum speed of 260 km/h, service ceiling of up to 6.5 km, a range of 350 km, a maximum take-off weight of 3.12 tonne and an empty weight of 1.91 tonne.

It will be capable of accommodating a maximum of two pilots and six passengers, all of which shall be seated on crash-worthy seats; externally, it is capable of carrying cargoes of up to 1 tonne under-slung.

With a glass cockpit, LUH will be able to undertake various missions including emergency medical services (EMS), troop transport, utility, search and rescue (S&R), VVIP, aerial reconnaissance and surveillance missions in Ladakh and Siachen with ease.

“ The IAF will soon procure six Light Utility Helicopters (LUHs).

The LUH has undergone rigorous testing. Its design ensures that the engine remains very cost-effective, particularly in terms of maintenance and cost of ownership. These engines are particularly well-suited to demanding mission profiles, delivering sustained performance in hot-and-high conditions.

Over the next few years, the Army and the Air Force are likely to place orders for over 200 such helicopters to replace Cheetahs and Chetaks.

Shri Sivakumar R

India's Economy Surges 20.1%

Fastest Since Mid 1990s

USA 6%,
China 8%,
Japan 2.4%,
UK 6.8%,
Germany 3.1%.

Hello, Members of Generation Next!!!

I am getting you some good news regarding our economy. GDP (Gross Domestic Product which is the sum total of the incomes earned by all individuals and businesses in a year) has grown by 20.1% in the first quarter of the financial year 2021-2022. This is the fastest quarterly growth since the mid-1990s.

How has this happened?

Many experts had predicted a severe slowdown in the economy consequent to the impact of the recent pandemic. But we have weathered the storm by an increase in public investment and spending, which has provided money to public who in turn have used the money to buy goods and services necessary for them creating a domino effect all over the economy.

DO YOU KNOW ?

Mergers – Combining two different entities into one. E.g Punjab National Bank (PNB) took over Oriental Bank of Commerce and United Bank of India; Allahabad Bank became part of Indian Bank.

Recapitalization - a method of infusing new and fresh capital into banks to strengthen their finances. The new funds may come from government or from private entities as equity (owned as shares) or debt (borrowed).

Insolvency - a state of financial distress in which a person or business is unable to pay their debts.

> **Economy looks very bright and experts feel that our GDP growth rate over the next few years could be in the range of 8% to about 12.5%**

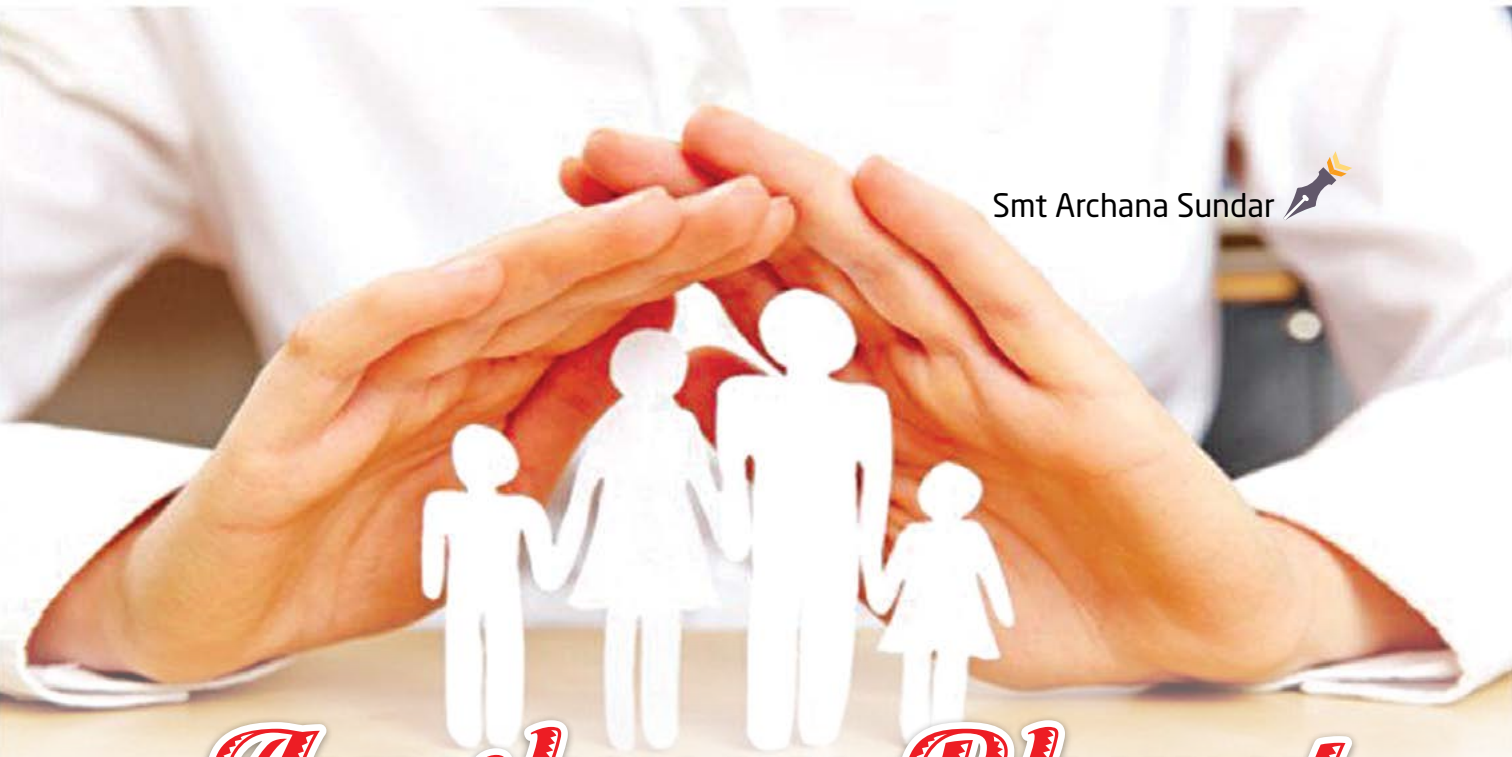
Many of you might have noticed how infrastructure activities like Road & Rail laying continued right through the pandemic except for a couple of months of the inevitable total lock down.

The Government has continued its structural reforms and its mission of "Make in India." The large structural reforms include the mergers and recapitalization of banks which will provide the basis for sustained growth in the future and quick resolution of business insolvencies which will lead to better utilisation of locked up valuable assets, resulting in increased income and employment generation.

To sum up, the future when you will start contributing to our national economy, looks very bright and experts feel that our GDP Growth rate over the next few years could be in the range of 8% to about 12.5%. To put it in perspective, GDP growth of major economies in 2021 is expected as follows:

USA 6%, China 8%, Japan 2.4%, UK 6.8%, Germany 3.1% and so on.

"Hamara Bharath Mahaan" is happening.



Smt Archana Sundar

Ayushman Bharat Digital Mission Launched

Ayushman Bharat Digital Mission finds its roots in a 2018 Niti Aayog proposal to create a centralised mechanism to uniquely identify every participating user in the National Health Stack. Under this mission, a unique digital health ID will be provided to the people, which will contain all the health records of the person.

It involves creation of a unique health ID for every citizen and also the creation of a registry of digital healthcare professionals and facilities. It will bring every stakeholder related to health together on a single platform.

The mission is aimed at playing a big role in overcoming problems faced by the poor and middle class in the country in accessing treatment and will enable individuals to discover hospitals, laboratories and pharmacies across the country. It will also connect digital health solutions of hospitals across the country with each other.

It will increase the ease of living and simplify the procedures in hospitals. The use of technology in hospitals is currently limited to only one hospital or to a single group.

The entire ecosystem related to treatment and healthcare policy-making is going to become more effective with this modern platform.

Doctors and hospitals will be able to use this platform to provide remote health service. With effective and reliable data, this will improve treatment and also save patients.

With this initiative, information on doctors will reach everyone; it will give information about doctors who are knowledgeable about a speciality; who to reach out to; who is the nearest, where one can reach at the earliest and so on.

It has the potential of bringing a revolutionary change in India's healthcare facilities.

DO YOU KNOW ?

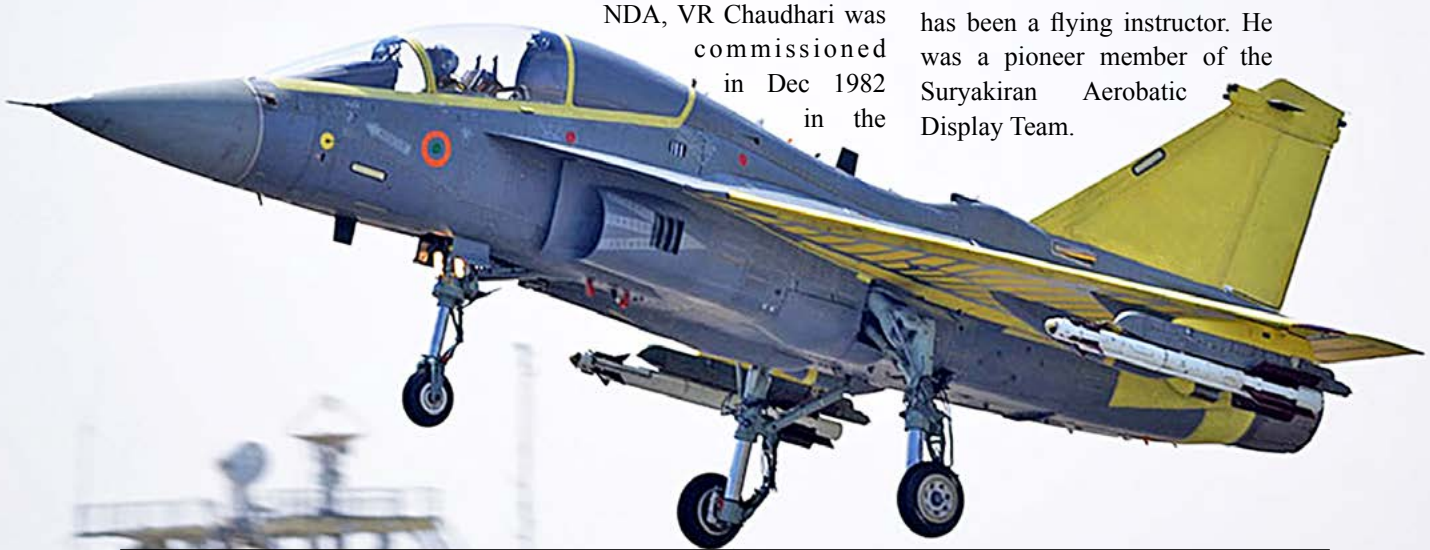
NITI Aayog (National Institution for Transforming India) was formed in 2015 to foster involvement and participation in the economic policy making process by state governments. Its chairperson is the Prime Minister.

Smt Meenakshi S

NEW AIR CHIEF MARSHAL V.R.CHAUDHARI

Air Chief Marshal Vivek Ram Chaudhari took over as the Chief of Air Staff (CAS) at Air Headquarters (Vayu Bhawan) on 30th September 2021. An alumnus of NDA, VR Chaudhari was commissioned in Dec 1982 in the fighter stream of the IAF.

During his career spanning almost four decades, the CAS has commanded a MiG-29 Squadron, two Air Force Stations and Western Air Command and has been a flying instructor. He was a pioneer member of the Suryakiran Aerobatic Display Team.



DO YOU KNOW ?

Param Vishisht Seva Medal is awarded in recognition of peace-time service of the most exceptional order.

RAFALE

Sukhoi Su-30MK

HONOURS AND MEDALS

Chaudhari is a recipient of Param Vishisht Seva Medal (PVSM), Ati Vishisht Seva Medal (AVSM), Vayu Sena Medal and is the honorary ADC (Aide-De-Camps) to the President of India.

89th AIR FORCE DAY

AIR FORCE DAY is celebrated every year on 8th October with passion and pride at all Air Force bases of the country, recalling the establishment of the IAF and to increase awareness about the IAF (Bhartiya Vayu Sena) as an organisation dedicated to enhancing national security and authority. The most crucial and vintage aircrafts present a magnificent show in the sky.

This year's celebration, presided over by VR Chaudhari at Ghaziabad Hindon Air Base in Uttar Pradesh, paid homage to the heroes of the 1971 war by depicting the Tangail airdrop operation. The pictures of the fighter jets used by the IAF -Sukhoi Su-30MKI, Tejas LCA and Rafale are seen here.

Shri Kaushik

The Journey of India's

100 CRORE VACCINES

On 21st October 2021, India achieved yet another milestone in its vaccination drive by administering more than 100 crore Covid-19 vaccine doses.

That is equivalent to vaccinating 3 USAs, 5 Japans, 9 Germanys, and 10 Frances with one dose of the vaccine. Despite starting a month after USA, India has managed to vaccinate 75% of the eligible adult population in just 9 months! As India scripts history, let's see how the country crossed several hurdles to implement the world's largest vaccination drive!

In March 2020, when the pandemic hit, India took a two-pronged approach - one for the short term and another a long-term solution. Prime Minister Modi announced a nation-

wide lockdown to curb the spread while simultaneously engaging scientists and vaccine producers to come out with a vaccine.

Accordingly, India came out with two Made-in-India vaccines - COVAXIN manufactured by Bharat Biotech and Oxford-AstraZeneca's Covishield manufactured by Serum Institute of India. India started the world's largest COVID-19 vaccination drive on 16th January 2021 with COVAXIN and COVISHIELD.

The indigenous Co-Win platform was the digital backbone through which vaccine administration was rolled out and monitored.

Beginning with frontline warriors like doctors, nurses and other essential service providers in the 1st phase, the drive gradually expanded to include 60+ and later on to 45+. From 1st May, all citizens above age 18 were given vaccination at both government and private health facilities.

Initially, there were teething troubles - hesitancy among the public thanks to some political parties and leaders casting unwarranted aspersions over the efficacy of one of the vaccines. However, a sustained campaign helped increase the pace. Moreover, the production capacity of the vaccine manufacturers was also less against high demand. With the Central Government's quick decision making, production capacities were enhanced.

The Timeline of Vaccine Introduction Globally,In India, And Vaccine Manufacturing In India

Vaccine	Global Introduction	Make In India/ Made In India	Introduction In India
BCG	1927	1951	1978
DPT	1948	1962	1978
OPV	1961	1970	1978
TT	1926	1967	1983
Measles	1963	1980s	1985
Hepatitis-B	1982	1997	2002(pilot)/2010
Rubella	1971	1993	2017
IPV	1955	1984(stopped later)	2015
Pentavalent	1990s	2008	2011
Rotavirus	2006	2014/15	2016
Pneumococcal	2000	2020	2017(partial introduction-national scale up expected in 2021-22
COVID-19	2020(Dec)	2020	2021(Jan)

The Department of Biotechnology launched 'Mission COVID Suraksha- the Indian Covid-19 Vaccine Development Mission' to augment vaccine production. The Centre also extended financial assistance and streamlined regulatory norms for approval of vaccines. India now has enough vaccines and is administering several lakh vaccines on an average and frequently touching crore vaccinations in a day.

On 17th Sep, India set a record by administering a whopping 2.5 crore doses in a day. That is equivalent to vaccinating the entire population of New Zealand 4 times over in one single day! India has now left behind the first world countries like USA in its vaccination drive. The sheer speed and scale with which India's vaccination drive has been conducted has astonished the world.

Shri Peeyush Arya

IN THE PATH OF OUR GREAT WARRIORS

What I saw, moved me - young jawans and officers, many of them in their early twenties, carrying over 30 kgs on their back, wearing heavy snow boots.

Near or sub-zero temperatures, 15,000 feet, rarified air making breathing heavy and steps difficult, crevasses posing risk to life and limb along every few steps and 60 kms to cover. We felt like heroes during what seemed like the most adventurous days of our lives.

But, time and again, I was humbled by this quote that I saw on our way:

"What is a lifetime adventure for you, is a daily routine for us!"

What I saw, moved me - young jawans and officers, many of them in their early twenties, carrying over 30 kgs on their back, wearing heavy snow boots, going further from where we had stopped and all the way up to 21000 feet. They stay in peak winter when temperature drops below -50 degree Celsius. Where death looms at every step, they stay put for months together! Indian Army soldiers have been treading the paths in Siachen for 40 years now. To me, they are the "Greatest Warriors on Earth". We were fortunate to have walked their path… though only up to a point!

Siachen is the second longest glacier in the non-polar world. But it is more famous as the highest battlefield on earth. It turned into an active battlefield when our troops retook the glacier and the strategic heights surrounding it in Operation Meghdoot in 1984. Ever since, only defence forces have had access to this area.

Two years ago, our government permitted Indian civilian expeditions until Kumar Post in Siachen. I chose to be part of the 3rd batch of 6 civilians that went on this expedition from 26th September until 2nd October 2021. And it

At Kumar Post, in Siachen

Nature is at its pristine best in Siachen! Snow covered mountains rise majestically all around us reaching out to the skies.

turned out to be a life changing experience!

The thought of this expedition, when I first read about it, filled me with excitement. The highest that I had been to, until then, had been places like Thimpu, Darjeeling and Srinagar. Those extend up to 8000 ft. in elevation. This expedition was at elevations twice that. To get an opportunity to visit the highest battlefield under the guidance of army filled me with a great sense of pride and honour.

We landed in Leh to get acclimatized and trained at various points for 8 days. We were fully equipped, trained and cleared for the expedition at Siachen base camp. The ascent began on Day 10, with us gaining ~1000 ft. each day. We reached Kumar post at 15,500 feet on Day 13 and returned to the base camp by the 17th day.

Crevasses on the way…

This expedition tested my endurance through multiple dimensions – distance we covered, elevation we climbed, temperatures we faced, icy surface we walked on, weights we carried, rarified air that we breathed, the food, water and stay during this time. Each of these challenged us in different ways. Multiple times during the expedition, walking along sharp ridge lines with deep crevasses on either side, I felt how close we were to death. A small mis-step or a mild slip on the surface could land us over a hundred feet below, into an icy graveyard, with little chance of recovery. Movement was an ordeal due to lower oxygen and sub-zero temperatures.

But I drew strength watching the soldiers who were going through experiences multiple times more arduous than my own. Their commitment to duty in these harsh conditions will stay with me for the rest of my life.

Not to be missed, Nature is at its pristine best in Siachen! Snow covered mountains rise majestically all around us reaching out to the skies. Their icy surfaces glisten gloriously, changing colours with the movement of clouds and the sun. Glacier is a moving structure that keeps melting as well. Nature is at its artistic best, creating beautiful shapes of ice and rock all over the place. The ice melting all around converges into increasingly larger streams of crystalline water every

Rising majestically…

Ice Modak

No matter who the conflict has been with - since independence - this region has seen significant military action.

few hundred metres. Come night, the sky is illuminated with millions of stars. The closer I watched, the more the sky unfolded its treasure. Never have I seen nature more beautiful than what I saw here. These memories will linger forever.

Streams from melting ice

We also had other experiences and gathered memories during training en route to Siachen base camp. During training, we trekked to Khardungla (the second highest motorable point on earth at 18,500 ft) and Pangong Tso Lake (the one that is a flashpoint with China).

We also visited the monasteries of Diskit and Thicksey that offered glimpses into Buddhism. There is so much common between Hinduism and Buddhism.

We also visited the army memorials and museums in Leh and Siachen.

It helped me get a sneak peek into the military history of Ladhak. It has been a critically strategic area post-independence and continues to be so with both our neighbours. No matter who the conflict has been with- since independence - this region has seen significant military action. Almost half the wartime gallantry awards have come from actions taking place here. Innumerable stories of bravery dot the mountains of Leh. We learnt the stories of a few of those inspiring men that matched the spirit of the indomitable mountains, while protecting them!

In summary, the 3 Ms (Men, Mountains and Monastery) have left an indelible mark of this expedition on me. The formidable mountains and the silent soldiers found their expression on the numerous road signboards with quotes. Many stood out, and I share another of them below that challenged those who would dare to go there. Would you?

Trek to Khardungla

"The land is so barren and the passes so high that only our fiercest enemies or our best friends would want to visit us."

Shri Krishna Kumar C S

Maiden Flight of
AKASH PRIME MISSILE

Defence Research and Development Organisation (DRDO) has come out with a new version called Akash Prime.

A key goal of Atmanirbhar Bharat is to make India a strong military power globally on its own strength and also develop a modern indigenous defence industry. Indian defense scientists and technicians have already proved their mettle in developing world-class defence equipment.

Indigenous Akash Missile has been the pride of Indian defence forces since its induction in 2015. Defence Research and Development Organisation (DRDO) has come out with a new version called Akash Prime - a medium-range mobile surface-to-air missile (SAM) system. Its first flight test was conducted from Integrated Test Range (ITR), Chandipur (Odisha) on 27th September 2021.

Features

- Equipped with an active Radio Frequency seeker for improved accuracy.
- Cheapest SAM ever produced.
- Range 27 km.
- Has supersonic interception capability.
- Has a command guidance system, multiple target handling features and automated air defence operations.
- Can fly at a speed of up to Mach 2.5 (nearly 860 meters per second) at a maximum height of 18 km.
- Can strike enemy aerial targets from a distance of 30 km.

Salute to the tireless technicians and courageous defenders of Bharat!!

Smt Ramamani N

भाकृअनुप
ICAR

PM Dedicates **35 Crop Varieties** to the Nation

This boosts the **Make in India** mission and also addresses the anti-nutritional factors found in some crops.

Employing 60% of the population, agriculture is the backbone of our economy. To create awareness for the adoption of climate-resilient technologies, Prime Minister Modi dedicated 35 crop varieties with special traits to the nation on 28th September 2021 in a programme organised at all Indian Council of Agricultural Research (ICAR) Institutes.

The climate-resilient approach uses existing natural resources to achieve long-term higher productivity in various climatic conditions. In his address, PM said, ***"When science, government and society work together, results are better. Such an alliance of farmers and scientists will strengthen the country in dealing with new challenges."***

He recalled the massive locust attack last year and how the nation managed it without any huge loss to the farmers.

35 new crop varieties developed by the ICAR in 2021 address the challenges of climate change and malnutrition. This boosts the 'Make in India Mission' and also addresses the anti-nutritional factors found in some crops that adversely affect human and animal health.

These crops include a drought-tolerant variety of chickpea, wilt and sterility mosaic resistant pigeon pea, early maturing variety of soybean, disease-resistant varieties of rice and biofortified varieties of wheat, pearl millet, maize and chickpea, quinoa, buckwheat, winged bean and faba bean.

PM also dedicated the newly constructed campus of National Institute of Biotic Stress Management Raipur to the nation.

It carries out research in biotic stresses (plant parasitic diseases, damage caused by insects or weeds). He also distributed the Green Campus Award to the Agricultural Universities which develop or adopt green and clean practices.

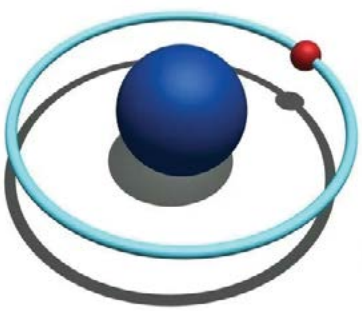
Shri Sridhar P

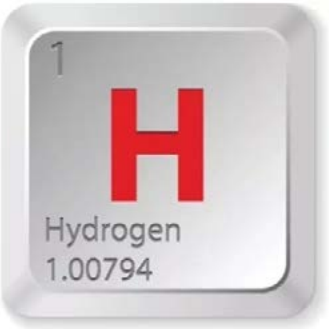
Cost effective production of HYDROGEN using sunlight and water

The two main contenders as of now are the battery powered electric vehicles (EVs) and Hydrogen (Fuel cell technology) powered vehicles.

The world has seen several transitions in energy resources like human power, draught animal power, biomass, coal, oil, hydro power, nuclear, wind solar etc. However, hydrogen as a fuel source did not catch up with scientists, technologists and government policy.

Perhaps that's because hydrogen doesn't occur in free form and its extraction is expensive. But hydrogen is the most abundant element in earth including in its most visible form - water. It can be extracted from water through electrolysis. It is commendable that Indian scientists have developed an inexpensive prototype to produce hydrogen using renewable energy like sunlight.





Technology and Automobiles

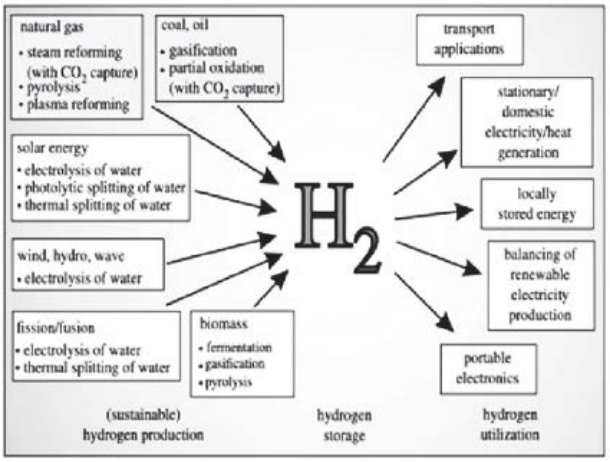
Technology in the automobile sector, till recently was geared to aspects of speed, safety, comfort, materials, cost, efficiency etc, not on fuel. Several factors, including rising crude prices, supply jolts and the march of suitable technology have evinced interest in alternate fuels in the transportation sector.

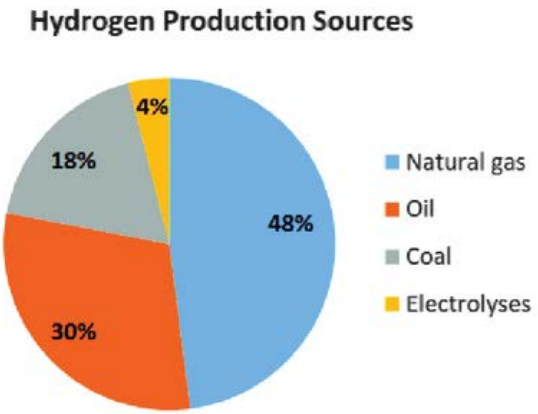
The two main contenders as of now are the battery powered electric vehicles (EVs) and Hydrogen (Fuel cell technology) powered vehicles.

Hydrogen Production:

Hydrogen has been used in industrial processes like steel and cement manufacturing. There are several methods to produce hydrogen and all are expensive, releasing methane, a potent greenhouse gas in the process.

Natural Gas: Hydrogen is often produced in a popular process called steam methane reforming from natural gas. This is "Grey hydrogen". 48% of hydrogen is produced thus.





Many countries are investing in green hydrogen technology. Hydrogen is safe because it has a higher ignition temperature than petrol and disburses very quickly into air.

Coal: Hydrogen from coal is called "Brown hydrogen". This process (gasification) releases a lot of methane and is environmentally destructive.18% of hydrogen is produced from coal. Hydrogen can also be refined from oil which roughly accounts for 30%.

Renewable energy: Hydrogen produced using renewable energy is called green hydrogen and that contributes to 4%.

Dr Kamalakannan Kailasam and his team from the Institute of Nano Science and Technology (INST) have developed a reactor prototype to produce hydrogen using renewables. The reactor is 1 sq meter in size. Carbon nitride, a catalyst which can be produced economically and in large quantities from urea is coated on the surface of the reactor in the form of bands where water flow is maintained. When sunlight falls on the catalyst, electrons and holes are created. The holes are consumed by chemicals known as sacrificial agents. Hydrogen is produced in this process in good quantities - 6.1 liters in 8 hours.

All these materials are easily available and inexpensive. Many countries are investing in green hydrogen technology. Hydrogen is safe because it has a higher ignition temperature than petrol and disburses very quickly into air. The only issue is cost of production and storage.

Hydrogen needs to be pressurized at 760 times the atmospheric pressure for storage which takes a lot of energy; or cooled to be stored as liquid, another energy intensive process.

Onsite production: The best option is onsite production of hydrogen using renewables like solar and wind energy using inexpensive materials. That is where this remarkable reactor developed by Indian scientists may find great use provided the prototype can be scaled up to commercial level applications. Experts feel that hydrogen will soon compete as a fuel especially in long haul trucks, locomotives and even in aviation.

Interestingly both hydrogen and photovoltaics have a similar story. First used in powering rockets, space crafts and prohibitively expensive at the start. Solar photovoltaic power can now compete with coal as an energy source. We can expect hydrogen to soon become a popular fuel. **A hydrogen-based economy is a reality, certainly not a sprint but a marathon with amazing efficiencies.**

Smt Ramamani N

WORLD'S LARGEST KHADI NATIONAL FLAG

DO YOU KNOW ?

Traditionally, Khadi is manufactured by converting the natural fibre into yarn using spinning wheels and then the yarn is woven to fabric using hand looms.

During the Swadeshi movement Gandhiji emphasised the use of Indian clothes and the boycott of foreign products. Khadi refers to cloth made of hand-woven natural fibres. In Leh, the capital of union territory Ladakh, the world's largest national flag was unfurled by Ladakh Lieutenant Governor RK Mathur.

The ceremony was held on 2nd October 2021 celebrating the 152nd birth anniversary of Mahatma Gandhi and 'Azadi ka Amrit Mahotsav'. The Indian Army Chief General Manoj Mukund Naravana also witnessed the glorious event. A troop of the Indian Army's 57 engineer regiment carried the massive flag to the top of a hill. The ceremony included a series of events including the Brass Band of Ladakh Scouts Regimental Centre along with students of Ladakh Ignited Minds, performing the national anthem when the flag was unfurled.

Special Features

World's largest flag made of Khadi

- 225 feet long
- 150 feet wide
- Weighs 1400 kg
- Covers 37,500 sq ft

Shri Krishnakumar C S

VACCINE DELIVERY THROUGH DRONES

**"When India grows, the world grows.
When India reforms, the world transforms."**

Hilly terrain, flooding rivers, thick forests, and international borders make land and rail transport time-consuming, expensive and complicated in the North – Eastern States. Vaccine distribution was delayed here due to these natural obstacles. However, our government proved that nothing is a barrier to serving people by introducing made in India drones to supply vaccines to the Public Health Centres.

On 4th October 2021, Union Health Minister Mansukh Mandaviya inaugurated this noble initiative. The ICMR's Drone Response and Outreach in North East (i-Drone) aligns with the Government's commitment to Antyodaya in health – making healthcare accessible to the last citizen of the country.

On the day of the inauguration, a drone transported the vaccine from a district hospital in Manipur to Karang island in Loktak lake, covering a distance of 26 km. At present, the project is granted permission of implementation in Nagaland, Manipur and Andaman & Nicobar islands.

India has always been a frontrunner when it comes to using sophisticated technology to serve the masses. Our nation now hailed as the 'Vaccine Capital of the World' has also supplied Covid vaccines to several other countries, apart from providing more than 100 crore domestic vaccinations.

Kum Kavya R

National Master Plan for Multi Modal Connectivity Launched

Prime Minister Narendra Modi launched the PM Gati Shakti National Master Plan for Multi Modal Connectivity on 13th October. The Master Plan aims to improve national level infrastructure to reduce logistical costs. This ₹100 lakh crore plan will provide multi-modal connectivity to more than 1,200 industrial clusters, including two defence corridors across the country.

The plan will bring together the various projects under multiple ministries under one single platform which will improve planning, coordination and execution. 16 ministries and departments of the Indian government including the railways and roadways will be brought under this. Pre-existing infrastructure schemes such as Sagarmala, Bharatmala, UDAN scheme and inland waterways will also be brought under this plan.

Infrastructure is key to a country's development and this plan will provide seamless movement of goods and people across the country.

The Gati Shakti platform will serve as a source of information for the 16 ministries and departments. It will provide high resolution satellite images with the help of ISRO.

It will also provide logistical information regarding infrastructure, land, utilities and administrative boundaries.

The six pillars of the Gati Shakti plan are **Comprehensiveness, Prioritization, Optimization, Synchronization, Analytics and Dynamic nature.** Manpower, resources and money wasted by multiple departments due to lack of coordination and communication will be rectified using this plan. Planning and execution of cross-sectoral projects will be enhanced.

The national highway network will be expanded to 2 lakh km; 220 new airports, heliports and water aerodromes will be created.

GOI is aiming to achieve an ambitious set of goals by the year 2025 through the plan. Two new defence corridors will be set up in Tamilnadu and Uttar Pradesh.

The national highway network will be expanded to 2 lakh km; 220 new airports, heliports and water aerodromes will be created. The cargo holding capacity of the railways will also be improved from 1,210 to 1,600 million tons per annum.

“Will for progress, work for progress, wealth for progress, plan for progress and preference for progress.

More than 200 fishing clusters, harbours and landing centres will be created across the country. And finally, to work towards our climate change goals, renewable energy capacity will be improved from 87.7 to 225 GW.

Improving our country’s infrastructure will create new employment opportunities, improve connectivity and the speed at which goods are transported.

It will also bring down our logistical cost which is at 13% of our GDP right now. High logistical costs can affect our exports in the global market, thus directly affecting the economy.

PM’s new mantra for India’s growth and development in the 21st century: “Will for progress, work for progress, wealth for progress, plan for progress and preference for progress.” He said that if India continues to pursue its dream to build world-class infrastructure, it will have the potential to soon become the business capital of the world. Proper execution of the Gati Shakti plan will propel India’s growth multifold.

Shri Ramaswamy R

Bharat Petroleum (BP) launches Automated Fuelling Technology "UFILL"

Bharat Petroleum (BP) has launched new Digital Technology (DT) enabled auto refuelling "UFILL" across 65 cities. The facility provides swift, secure and smart experience with complete control over time, technology and transparency to the customers at BPCL outlets.

DT obviates usage of currency and uses electronic medium for sending and receiving money. The customer need not monitor the fuel vending machine. No separate app needs to be installed and any payment app like GPay, Paytm etc, can be linked. This system offers real time QR and Voucher codes through SMS. For advance payments, the balance amount will be immediately refunded to customer's bank account.

DT like "UFILL", striving towards less cash economy received impetus after 2014 and is continuing till now mainly due to

(1) Opening of Jan Dhan Accounts. This initiative was started in 2014 to provide bank accounts to 75 million households by Jan 2015. The nationalized banks responded in great fashion, the target was exceeded and a number of 125 million reached by that date. Currently, 425 million households have active Jan Dhan accounts.

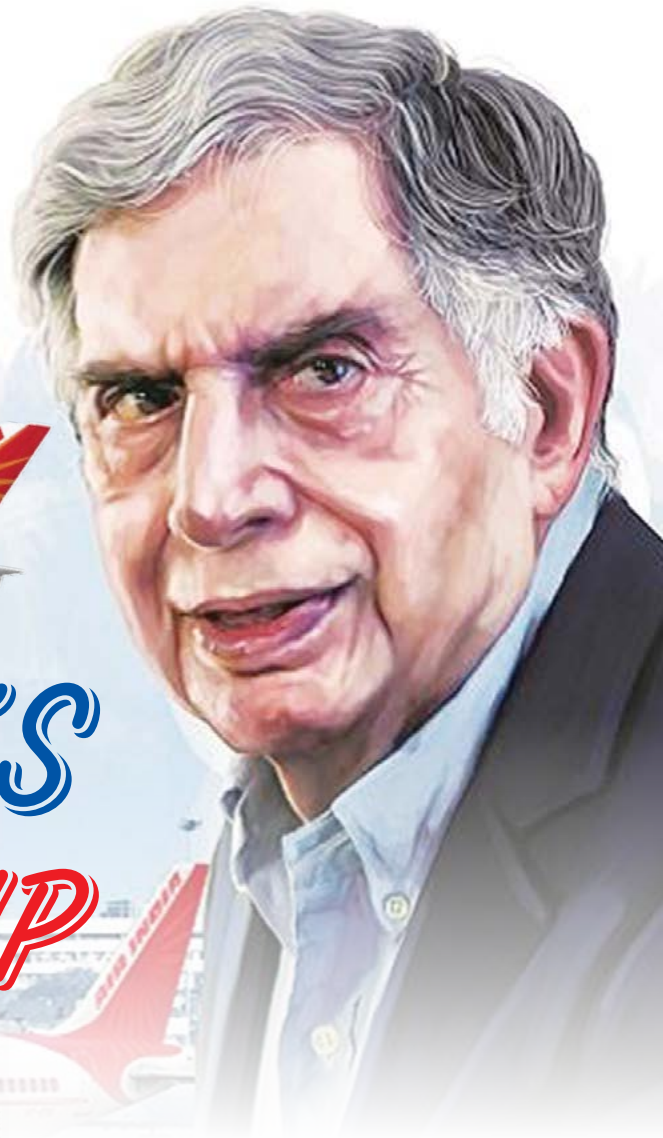
The linking of JD with Aadhaar and mobile phone have greatly reduced fake accounts and pilferages. This means 1.78 lakh crores saved to the government.

> "Currently, 425 million households have active Jan Dhan accounts.

(2) Demonetization of Rs. 500 and Rs.1000 notes declared in 2016 also gave boost to DT and less cash economy in the country.

(3) Covid 19 also gave unanticipated fillip to DT. As per RBI Report, digital technology has grown in volume from 3412 crores in 2019-20 to 4371 crores in 2020-21, a 28% increase in a single year. And RBI aims to increase DT by from 10% of GDP to 15% in 2020-21.

Thus, the explosion in DT the likes of which UFILL represents, has increased per capita digital transaction from 2.38 in 2014 to 22.42 by 2019. However, we have a long way to go compared to countries like China which showed a figure 96.7 as early as 2017.



AIR INDIA'S ROUND TRIP TO THE TATA

"I can only deplore that so vital a decision has been taken without giving us a hearing."

That was Jamshedji Tata writing to the then Prime Minister of India, Jawaharlal Nehru after learning about the nationalisation of TATA Airlines.

JRD founded his airline company in 1932 and in 1938 it was renamed as TATA Air services and later rechristened as TATA Airlines. In the year 1946 it became a Public Limited Company and acquired the name Air India. In 1947 the Government of India acquired 49% of the stake and in 1953 the Government nationalized the airline. The above statement coming from the man who started and passionately nurtured the airline is perfectly understandable.

His remarks at the first Air India's annual general meeting were really prophetic.

".....Unless the greatest attention continues to be paid to the highest

The late JRD Tata coming out of an Air India plane

standards of training and discipline amongst the flying and ground crews, the resulting deterioration might destroy the good name of Indian civil aviation."

Today we all know that the performance of Air India is below par. The inflection point has been the merger with the domestic carrier Indian Airlines in the year 2007, post which the company has not made a profit.

Every day Air India makes a loss of INR 20 crores, which is a whopping INR 7300 crores per year. It would be criminal for any government to continue running this enterprise on the taxpayer's money. In fact, the amount of money pumped in by the government from 2009-10 is INR 1.10 lakh crores (1.10 trillion). Mismanagement, corruption and compromising the interest of Air India to favour private air carriers have virtually ruined the company.

Successive governments are to blame for causing such a huge drain on public money, which could have otherwise been available for infrastructure development, education and social welfare schemes.

Two earlier attempts to divest Air India – one in 2001 under the then NDA government and the other in 2018 under the current government - failed.

The opposition by the trade unions was the reason for the failure in the first attempt while the conditions - that the government will retain 24% of the stake and the company winning the bid has to bear 70% of the debt - were the reason for the proposal failing the second time.

This time around, the government learned from its past mistakes and proposed full divestment and left the amount of debt to be borne to the choice of the bidders.

The Bid and the Deal

The reserve price fixed for this bid was INR 12,906 crores. There were two bidders – M/s. Talace Pvt. Ltd. (a wholly owned subsidiary of TATA sons) and the consortium led by Ajay Singh of Spice Jet. The TATAs quoted INR 18,000 crores while Ajay Singh's quote was INR 15,100 crores and TATAS won the bid.

Out of the INR 18,000 crores, INR 15,300 crores is the debt taken over by the TATAS and INR 2700 crores will be the cash paid to the government.

In addition to this they would also have to bear an additional INR 9185 crores towards the capitalized lease obligation of 42 aircrafts. They would get possession of 141 aircrafts, out of which 118 are fly worthy. They also gain access to the 24-strong fleet of Air India Express and 50% stake in the in-flight caterer Air India SATS (AISATS).

TATAS also get 13,500 employees who cannot be terminated for one year (except on disciplinary grounds). Post that, separation can be done with a voluntary retirement scheme. TATAS shall have to retain the brand for a minimum of 5 years, after which they can sell it, if they so

The reserve price fixed for this bid was INR 12,906 crores. There were two bidders – M/s. Talace Pvt. Ltd. (a wholly owned subsidiary of TATA sons) and the consortium led by Ajay Singh of Spice Jet.

wish but only to Indian companies. The transaction will get closed by end December 2021.

What it means - for the Government and the TATAS

From the government's perspective, this is a significant achievement given the fact that two earlier attempts had failed. This divestment reduces its debt burden in AI by 25%. The total debt as of 31st August 2021 stood at INR 61,562 crores and the assets were valued at INR 14,718 crores. This also helps the government to bridge a portion of the yawning gap in the divestment target.

From the standpoint of the TATAS, apart from being an emotional moment, this will give them 25% share of the domestic airline market by capacity.

They will become the second largest operator. This also provides them an opportunity to integrate with their existing carriers – Air Asia and Vistara. However, the immediate task on hand would be to change the culture of the organization as hitherto the top management of AI has been spending most of the time in answering the queries and catering to the needs of the civil aviation ministry and parliamentary committees.

It has to refinance the existing loans of AI. The fact that 15% of the fleet is not flight worthy speaks volumes about the condition of the fleet. Experts estimate the investment required to refurbish and upgrade the fleet to be about INR 7,500 crores.

The TATAS need to also revisit the various business contracts with suppliers and service providers. The total cash loss for the foreseeable future is estimated to be over INR 7,500 crores annually.

The track record of the TATAS in managing the two airlines that they currently own has not been inspiring from a profits standpoint. Their takeover experiments of Corus and JLR have yielded mixed results. Nonetheless, it is widely felt that AIR INDIA is now in the safe hands of a group that has always demonstrated concern for national interest and adheres to the highest standards of business ethics.

Ratan Tata has said that this gives them an opportunity to restore Air India's image and reputation as the most prestigious airlines it was under the leadership of JRD. This could be the driver that makes the difference between failure and success of this acquisition.

Ratan Tata has said that this gives them an opportunity to restore Air India's image and reputation as the most prestigious airlines it was under the leadership of JRD.

A Public Limited Company is a company that offers shares to the general public. Its stock can be acquired by anyone, either privately through initial public offering (IPO) or via trades on the stock market.

Divestment (or divestiture) is the sale, of an existing business by a firm / government or the reduction of some kind of asset for financial, ethical or political objectives.

Smt Sandhya Nair

BORDER DEFENCE VILLAGES IN INDIA

To improve security along the China border in Arunachal Pradesh and safeguard the life of the people in the border areas, the Government of India is taking special measures such as the establishment of model Border Defence villages.

As per this initiative under the **Border Area Development Plan** (BADP) the security forces and the state government are expected to set up around 50 such villages with modern amenities for health, education and connectivity to nearby towns and cities.

The aim is to develop villages and habitats where population is sparse and large stretches are barren and the neighbouring country and India have different perceptions about their boundary. These villages also help in building a security infrastructure where they can be the symbols of Indian authority in the areas close to the perceived boundaries. The step will also help address the migration of locals from remote areas of the state where living conditions are not good. These villages will benefit the locals and fortify security in the region.

Shri Mrithyunjay GN

ATMANIRBHAR ECOSYSTEM for Space Technologies

Space. The final frontier. For as long as we have been on earth humans have looked towards the stars and wondered about the infinite possibilities they hold.

Each year we get closer to discovering answers to the questions that Space holds for us. Among the people searching for answers and opportunities in the vast unknown we have Pravartak Technologies Foundation, which has partnered with start-ups for self-sufficiency in space technology.

Pravartak Technologies Foundation (PTF) is a part of IIT Madras, funded by the Department of Science and Technology. In September 2021, they partnered five tech start-ups to develop and commercialise space technology.

The Atmanirbhar Bharat App Ecosystem was launched by PM Narendra Modi to identify the best Indian apps being used by citizens that have the potential to scale up and become world class apps in their categories.

Partnership between the start-ups and PTF aims to develop technologies that will increase the scale of India's IT infrastructure. Development in the field of 6G,

> **Some of the expected outcomes include launch vehicles for space-craft and satellites, space debris management systems and anti satellite countermeasures.**

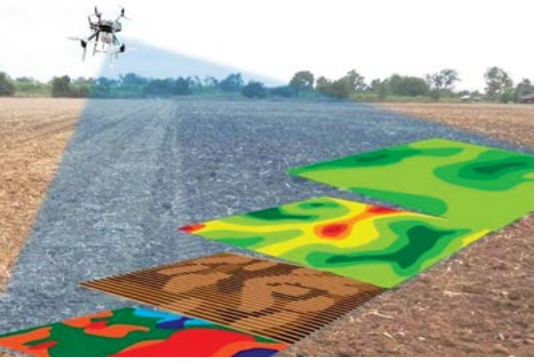
Satellite design and assembly and other geo-spatial innovations are expected to come from this partnership.

The faculty in charge of IIT Madras Pravartak Technologies Foundation, Shri. V Kamakoti said, in his statement the importance of collaboration and the need to pool the talent present in our country to develop new space technologies.

Some of the expected outcomes include launch vehicles for space-craft and satellites, space debris management systems and anti-satellite countermeasures.

Smt Meenakshi S

START-UP DEVELOPS RADAR IMAGING TECHNOLOGY



Two promising engineers from Chennai Shashwath T R and Sharan Srinivas have launched their start-up venture **Mindgrove Technologies Private Limited** where they work on developing cutting-edge radar imaging technology that potentially has applications ranging from underground to space, with wider implications for public safety.

The term RADAR was coined in 1940 by the US Navy as an acronym for "Radio Detection and Ranging". The basic principle behind radar is the principle of echo.

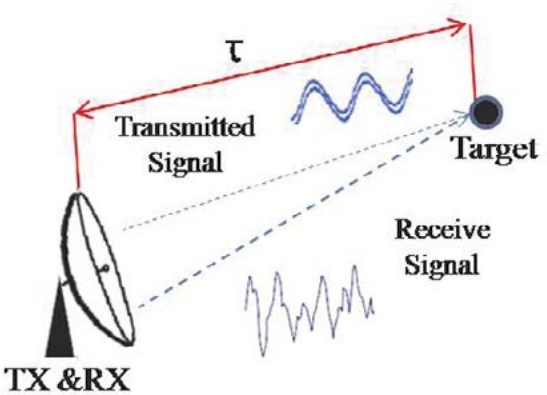
Shashwath's focus on imaging technology and Sharan's experience in building the indigenous open-source Shakti processor ecosystem under the guidance of his professor were the key factors to hit upon the idea of a Ground Penetrating Radar (GPR). Making use of RADAR in place of Ultrasound was the breakthrough. This makes the prototype user friendly.

Shashwath T R Sharan Srinivas

Applications

Mindgrove's prototype design makes it ideal for scanning concrete or a brick wall without breaking the structure. Beyond direct consumer application, the GPR can be used in civil infrastructure like roads, flyovers, bridges and dams.

Municipal corporations can locate and map underground pipes and cables to keep power and water operations running smoothly. Even archaeologists would benefit from this technology.

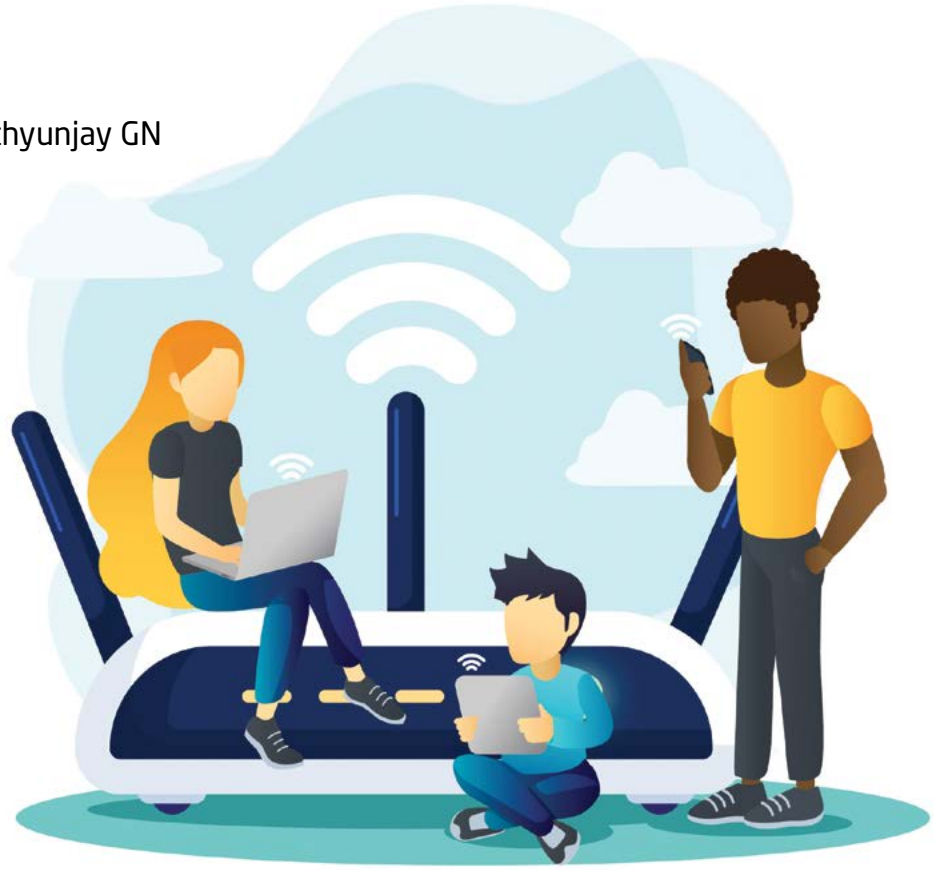


Enterprising individuals like them who work with a sense of passion to make our country self-reliant must be our heroes. We must be thankful to the government for having set a vision and easing the process for young entrepreneurs to realize their dreams.

DO YOU KNOW?

A good portion of computations done today, for example, in the cloud, can be done on the system right then and there. This is known as 'edge computing'. The start-up's idea was to take the radio signal and write the software to process the signal right there, on the Shakti processor.

Shri Mrithyunjay GN



BharatNet and its Advantages

In a world teeming with connection and innovation thanks to the internet there are still rural areas with scant or no access to what has become an urban necessity.

BharathNet is an ambitious undertaking by the Government of India, designed to provide complete broadband connectivity to the 250,000 village panchayats in India.

Set-up and operated by the Department of Telecommunications, under the Ministry of Communications all gram-panchayats are expected to receive up to 100 MB/s broadband by the end of its second phase on 31st March 2023. BharatNet will partner with Internet Service Providers across the country to ensure that expected connectivity is achieved.

Despite having been approved in 2011, the project began to find traction under the Digital India

Initiative of PM Modi and is expected to bring great benefits once implemented. Working in tandem with Digital India, BharatNet will transform how Indians across the country will use the internet.

Advantages

BharatNet is expected to increase employment rates in digital sectors, especially in rural areas. Online services such as e-gram panchayat, e-governance, e-health, e-agriculture etc., can be delivered seamlessly to all citizens irrespective of their location.

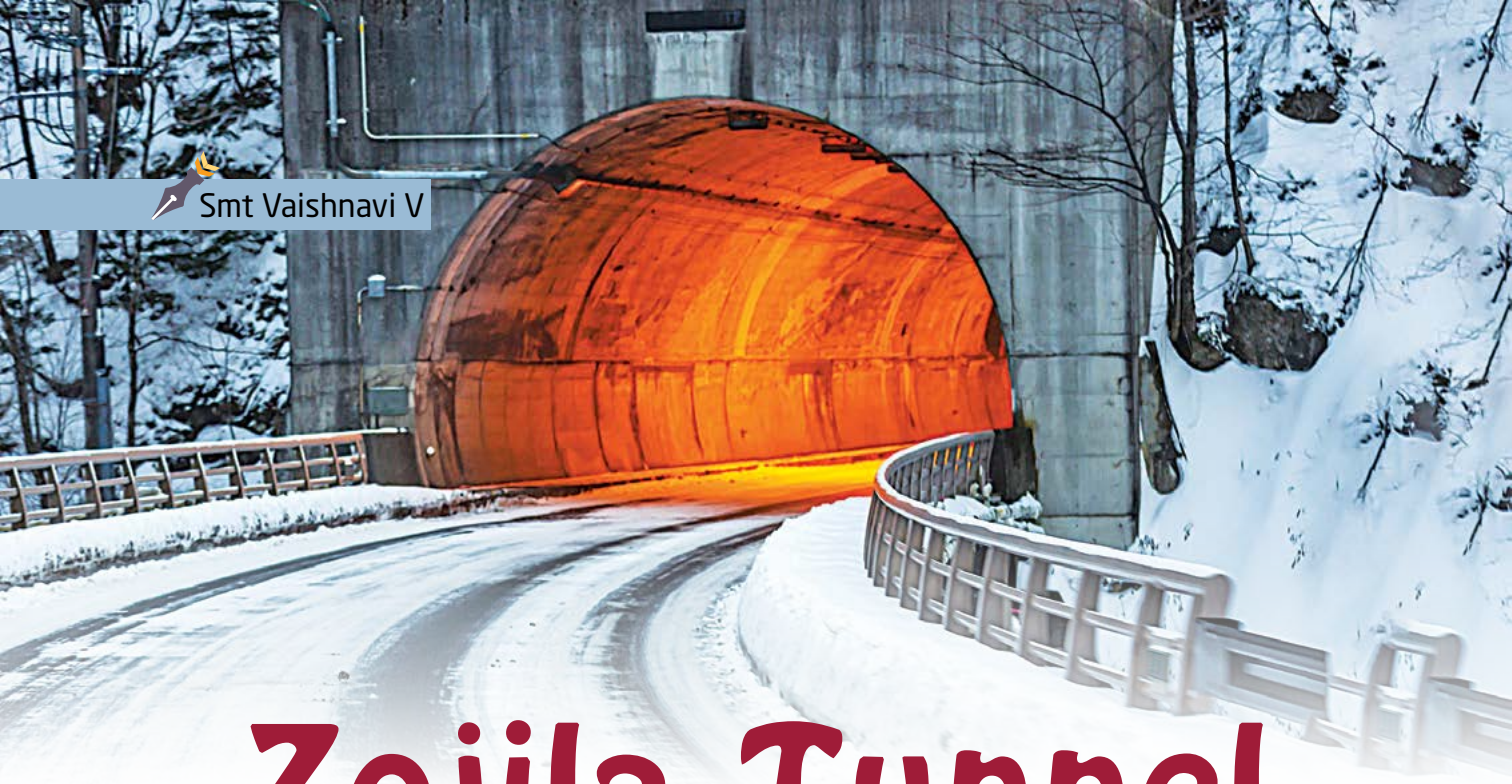
With a shift from traditional education to online classes due to the pandemic, many students faced difficulties in attending classes and accessing study materials, because of poor connectivity in villages. BharatNet aims to address these.

With access to high-speed internet, smart phone usage and internet usage will expedite business transactions and this will result in a 3.3% increase in India's GDP for every 10% increase in internet connectivity. The more connected India becomes through this initiative, the bigger the socio-economic benefits.

As part of Make in India initiative, advances have been made in Indian made fibre-optic connections to ensure that BharatNet can be implemented. Being done without any foreign involvement, it has resulted in great improvements in India's IT infrastructure.

Lack of access to information and services is the biggest hurdle to innovation and development. Students with intelligence and ability will not be able to achieve their full potential without access to the same. BharatNet is the world's largest rural broadband connectivity initiative, a massive step in the democratization of internet access and a step towards bringing India on a par with global superpowers. With the benefits of pan-Indian connectivity, the innovations that can arise are truly boundless.

As part of Make in India initiative, advances have been made in Indian made fibre-optic connections to ensure that BharatNet can be implemented.



Smt Vaishnavi V

Zojila Tunnel
IN THE MAKING

Upon completion, the Zojila tunnel will be India's longest road tunnel, Asia's longest bi-directional tunnel and the world's highest.

The 14.15 km long Zojila tunnel at an altitude of about 3,000 m is under construction in Jammu & Kashmir. Situated under the Zojila Pass on NH-1, it will connect Srinagar and Leh through Dras and Kargil. The passage begins at Sonmarg in J&K and ends at Minamarg in Ladakh.

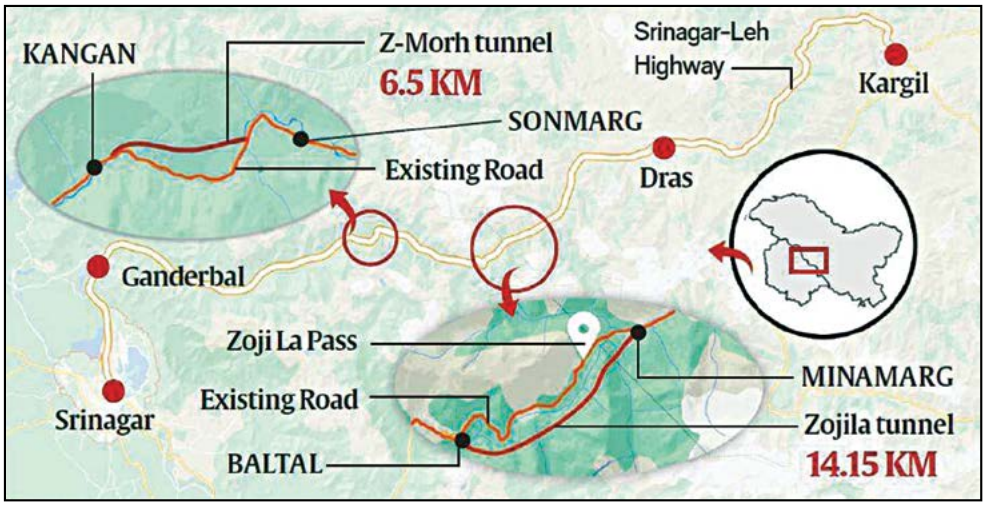
The deadline for the completion of the project set for 2026 has been advanced to 2023 by Union Minister Nitin Gadkari. Upon completion, the Zojila tunnel will be India's longest road tunnel, Asia's longest bi-directional tunnel and the world's highest.

Need

Presently, the Zojila Pass is motorable only for 6 months per year. The road becomes inaccessible when snow sets in and poses a hurdle for the movement of vehicles. Other routes between Srinagar and Leh are long, more hazardous in winters and located close to India's borders with Pakistan and China.

Features

- Two-lane, bi-directional, single tube tunnel.
- Permits a speed of 80 km/hour.
- An approach road at the head of the tunnel, connecting it with the end of the Z-Morh tunnel will lead to Kargil.
- The approach road will have avalanche protection structures such as catch dams and snow galleries.
- Safety features include sidewalks, emergency phone niches, hydrants, fire alarms, a lighting system and a video surveillance system.
- Will have a traffic control



system with a central control room.

Benefits

- Will reduce travel time from 3 hours to just 15 minutes.
- Will reduce the distance between the two Union Territories from 40 km to 13 km and the total travel time by 1.5 hours.
- Will ensure safer travel for defence and military vehicles.
- Will generate employment opportunities for locals as better transportation networks will boost the tourism sector.

Project timelines

- **Oct 2013:** Cabinet approves the road tunnel project
- **May 2017:** Four private players bid for the 10,000 crore project namely Larsen & Toubro (L&T), ILFS, Jaypee Infratech and Reliance Infrastructure.
- **Jun 2017:** Contract awarded to the bidders by June end and work started in August 2017.
- **Jul 2017**: IL&FS Transportation Networks Ltd, the firm which developed Dr. Syama Prasad Mookerjee Tunnel emerged as lowest cost bidder for the tunnel. It quoted cost of 4,899 crore (US$651 million), and a period of 7 years to construct tunnel.
- **Jan 2018:** Union Cabinet approves tunnel to be built at a cost of 6,809 crore (US$904 million) including land acquisition cost. Tunnel to be ready in five years.
- **May 2018:** Foundation stone laid by Prime Minister Narendra Modi and work starts.
- **Mar 2019:** The project is to be bid again as earlier developer IL&FS has gone bankrupt.
- **Jun 2020:** Fresh bids invited for construction of tunnel.
- **Aug 2020:** MEIL (Megha Engineering & Infrastructure Ltd) emerges as lowest bidder for the tender with quoted price of 4509 crores. MEIL will construct the tunnel.
- **Oct 2020:** On 15 October 2020, Minister of Highways, Nitin Gadkari initiated the first blast for the all weather Zoji-la tunnel on NH1.

  This marked the beginning of the construction of the tunnel. The event was attended by Union Ministers of State Jitendra Singh and V. K. Singh. The tunnel is expected to be completed by September 2026.
- **Sep 2021:** After inspection of Union Minister Nitin Gadkari, he sets deadline for the tunnel to be completed by December 2023, much ahead of its original deadline of Sep 2026.

Will reduce the distance between J&K and Ladakh from 40km to 13 km and the total travel time by 1.5 hours.

Kum Silpa Nandakumar

Safety Gear for Children as Pillions Made Mandatory

India will be among the few countries in the world with this kind of age-specific provision for the safety of children on road.

Did you know that road traffic injury is one of the 15 main causes of death of children between age 1-4 years and the second most common cause of death of children aged between 5-9 years?

For the first time in India, the central government has brought out a draft notification to amend the Central Motor Vehicles Rules 1989, to accommodate new safety provisions for the operation of vehicles.

When the guidelines are implemented, motorcyclists will have to ensure that child pillion passengers aged between nine months and four years are wearing a crash helmet or a bicycle helmet.

The protective gear, including the safety harness, should be lightweight, adjustable, waterproof, and durable. It should be made of heavy nylon or multi filament nylon material with high-density foam that can hold up to 30kg of weight. Moreover, the vehicle carrying a child up to the age of four years as a pillion should stick to speeds below 40 kmph.

How this helps

When a safety harness or vest is worn by the child that is adjustable and has a pair of straps with shoulder loops worn by the driver, there is no chance of the child falling off the vehicle. The upper torso of the child is securely attached to the driver and two large crossing-over loops are formed that pass between the legs of the passenger.

According to multiple reports, people are more likely to be injured or even dead in a motorcycle accident than in a car. A study reveals that as many as 11,168 children lost their lives in road crashes in 2019 in India - an increase of 11.94 % over 2018.

The Union government has given a month's time to citizens to give their suggestions on these proposals. If they come into effect, India will be among the few countries in the world with this kind of age-specific provision for the safety of children on road.

Shri Kaushik

Bhagat Singh

A Revolutionary Who Remains Inspirational

Bhagat Singh is one of India's greatest revolutionary freedom fighters who sacrificed his life for our country at the tender age of 23.

His actions inspired many to take up the revolutionary path to freedom thus giving a new vigour to the Indian national movement.

Bhagat Singh was born in Lyallpur district in what is today's Pakistan and did his schooling at the Dayanand Anglo Vedic School, Lahore. He went on to study at the National College (Lahore).

His father Kishan Singh Sandhu and uncle Ajit Singh were part of the Ghadar Movement, a political movement founded by expatriate Indians (mostly Punjabis) to overthrow the British rule in India.

At 17, he left his home for Kanpur when his parents tried to get him married. He said that his bride shall only be death if he were to marry in an India enslaved by the British.

Inspired by the Italian revolutionaries Giuseppe Mazzini and Giuseppe Garibaldi, the Naujawan Bharat Sabha was established in 1926 and Bhagat Singh became its general secretary. He joined the Hindustan Republican Association which later became the Hindustan Socialist Republic Association.

Bhagat Singh had evolved the membership criteria for the association and ensured that the revolutionaries read a variety of books so that they were well aware of Indian history and other socio-political happenings around the world. One of the books mandatorily studied by every member of HSRA was The Indian War of Independence 1857 written by Veer Savarkar, another revolutionary.

Bhagat Singh ensured that the revolutionaries read a variety of books so that they were well aware of Indian history and other socio-political happenings around the world.

"He said that his bride shall only be death if he were to marry in an India enslaved by the British.

Bhagat Singh conspired with fellow revolutionaries like Chandrasekhar Azad, Shivaram Rajguru and Sukhdev Thapar to avenge the death of Lala Lajpat Rai who died days after getting attacked by Superintendent of Police, James A. Scott, during the protests against Simon Commission. However, in a case of mistaken identity, they shot at John Saunders who was an Assistant Superintendent of Police. The group managed to escape from Lahore. Bhagat Singh dressed in western attire boarded a train to Kanpur and lay low for some time.

On 8th April 1929, Singh, accompanied by Batukeshwar Dutt, threw two bombs into the Assembly chamber from its public gallery while it was in session shouting the slogan "Inquilab Zindabad". The two were arrested. Bhagat Singh, Sukhdev, Rajguru, and 21 others were charged with the Saunders murder. In jail, Bhagat Singh undertook hunger strikes to protest against the unfair treatment of political prisoners by the British.

Bhagat Singh, Sukhdev and Rajguru were sentenced to death on 23rd March 1931. They remain an inspiration and continue to infuse patriotic spirit among Indians.

Jawaharlal Nehru met Singh and the other strikers in Central Jail Mianwali. After the meeting, he stated:

"I was very much pained to see the distress of the heroes. They have staked their lives in this struggle. They want that political prisoners should be treated as political prisoners. I am quite hopeful that their sacrifice would be crowned with success. "

Shri Subramanian S

Why INDIA is a Power House for the World in IT SERVICES

Starting as an IT outsourcing centre, India is now looking to transform itself into a SaaS (Software as a Service).

Where can one get trained English-speaking software developers in hundreds in 48 hours? The answer is India. How, you want to know? Continue reading.

Indian IT services industry today

Indian IT industry is worth $194 billion that employs 4.47 million professionals and contributes nearly 8% relative to India's GDP. India is expected to have a digital economy of $1 trillion by 2025. India's digitally skilled pool has grown and accounts for around 75% of global digital talent. Over the years, the Indian software industry has matured from providing cost-effective back-office support to driving the digital transformation agenda ahead in global companies. Increasingly, leaders of more than a thousand global enterprises across the world have realized India's potential and have set up their own IT or R&D centres to take advantage of the vibrant Indian software ecosystem.

The Indian IT industry has seen exponential growth rate after the economic reform of 1991-92. Indian IT companies have set up thousands of centres within India and in around 80 other countries.

How IT industry has flourished in the last 50+ years?

This phenomenal growth of the IT industry in India has changed the perception of the whole world

about India's knowledge and skills. The swift advancement within the IT industry and liberalisation policies such as reducing trade barriers and eliminating import duties on technology products by the Government of India are instrumental in the evolution of this industry.

Also, various other government initiatives like setting up Software Technology Parks (STP), Export Oriented Units (EOU), Special Economic Zones (SEZ) and foreign direct investment (FDI) have helped in attaining a leading position in the world IT industry.

India has the third largest start-up ecosystem in the world.

Digital India growth accelerator

India has emerged as the second-fastest digital adopter among seventeen major digital economies, leveraging the energies of the country's young population. Since the launch of the "Digital India" programme in 2015, there have been many significant improvements in digital infrastructure, in the digital delivery of public services and financial succour to citizens, enhancing digital consciousness and literacy.

Starting as an IT outsourcing centre, India is now looking to transform itself into a SaaS (Software as a Service) and deep tech hub fuelled by start-ups.

"India has emerged as the second-fastest digital adopter among seventeen major digital economies.

For example, Freshworks was the first Indian SaaS company to achieve a billion-dollar valuation in 2019 and in September 2021, Freshworks made its debut on Nasdaq (US Stock market) and its valuation touched $12 billion.

What made this possible?

One can summarise the influencing factors that enabled India to reach its current status:

1. The number one reason has to be the large well-educated population in India.
2. The highest number of English-speaking people.
3. Low wages in India as compared to the West. (However, Indian wages are increasing.)
4. Indian culture is a huge contributor. For e.g: Parent's commitment to children's

"I feel like an Indian athlete who has won a gold medal at the Olympics. We are showing the world what a global product company from India can achieve," Mathrubootham, CEO, Freshworks.

education. The importance of education is ingrained by them in their children at a very young age. They see good education as the only means to have a good standard of living.

5. Indian IT Industry has grown due to offshoring. Credit should also go to the growth of domestic companies in Auto, retail, banking, telecommunication, manufacturing etc. They have equally contributed to IT boom.
6. The young working population. More than 60% of Indian people are below age 25!
7. The rapid growth in IT parks in India in the last 10 years. The government setup SEZs (specialized economic zones), where the opening of software services companies would get certain tax subsidies. This attracted a lot of companies to setup software shops.
8. The tax benefits offered by the Indian government for upcoming software firms has made India one of the most attractive markets for software shops.
9. The entrepreneurial spirit and innovative tilt of Indians. I think it is a factor that has made Infosys and Wipro such huge success stories!
10. Local talent pools from tier-three towns and villages have been harnessed.

Some key success stories

- India is the second-largest technology hub for Amazon globally and its teams are powering innovations not only for customers in the country but globally as well, with some of the most talented software developers, product managers, machine learning scientists and research scientists as part of the team.
- Japanese conglomerate Hitachi believes that India can become a global hub for new-age tech solutions.

ZOHO Is quietly taking on Google and Microsoft for Cloud dominance. Zoho has over 50 million users in over 180 countries globally.

It is now looking at India as a hub in segments including technology, artificial intelligence, energy storage and fast charging or environmentally friendly solutions.

- With nearly 300 offices and 150 delivery centres worldwide, TCS has posted impressive financial gains even during the time of COVID-19, with operating income in excess of $6 billion as of 2021.
- Launched by seven engineers with only $250 in capital in the early '80s, Infosys has grown to dominate the market with its independent development and maintenance services. Now, with a market capitalization of over $70 billion as of 2020.
- Sridhar Vembu born in a middle-class family was the first of his family to go to a university. He started Zoho Corporation in 1996 with zero outside funding. Profitable throughout, Zoho is a business software solutions company with a revenue of USD 580 million (2020).

Open Software development community

GitHub is an open-source community, with more than 50 million developers at its platform, GitHub has been the go-to resource for data science and AI enthusiasts over the years.

The developer community in India is thriving and is the third-largest for GitHub after US and China. India also has one of the largest communities of student developers in the world.

According to Apple, India has one of the most vibrant and exciting iOS developer communities, with developers who have already created nearly 100,000 apps for the App Store worldwide. **There are approximately 2 million Android software developers in India.**

> **Government of India, under the National Education Policy, has recommended coding as a subject from class 6 onwards.**

Opportunities for school students

To instil scientific temper among children, the Government of India, under the National Education Policy, has recommended coding as a subject from class 6 onwards. Popular online coding platform, Tinker Coders and Coding Ninjas Junior have tied up with over 200 schools for various online coding programmes during the pandemic alone. **Google's "Code with Google" helps students learn to code.**

Coding improves reasoning and problem-solving skills and provides the right platform to develop 21st-century skills while still young.

The IT sector has been India's sunshine sector for quite some time and will continue to be so."Code In India" should be our new war cry to export our skills and capabilities to the world.

Kum Deepasri Bharathan

FUNDAMENTAL RIGHTS

UNDER THE CONSTITUTION OF INDIA

The scope and boundaries of 'personal liberty' under Article 21 has gradually been expanded by the courts over the years.

In the previous edition of this series, we had gained an insight into the fundamental rights under Articles 14 and 19 of the Constitution, i.e., the right to equality and the right to freedom of expression.

In this edition, we shall learn about another important fundamental right, which is the right to life and personal liberty.

Article 21 of the Constitution states that no person shall be deprived of his life or personal liberty, except according to procedure established by law. This fundamental right is applicable not only to citizens, but to all persons. If this right is violated by an action of the executive or the legislature, remedy can be sought by the aggrieved person, before a High Court or the Supreme Court.

It can also be seen that this provision contains an exception to the right, which is 'procedure established by law.' Thus, where there is

(i) a law;

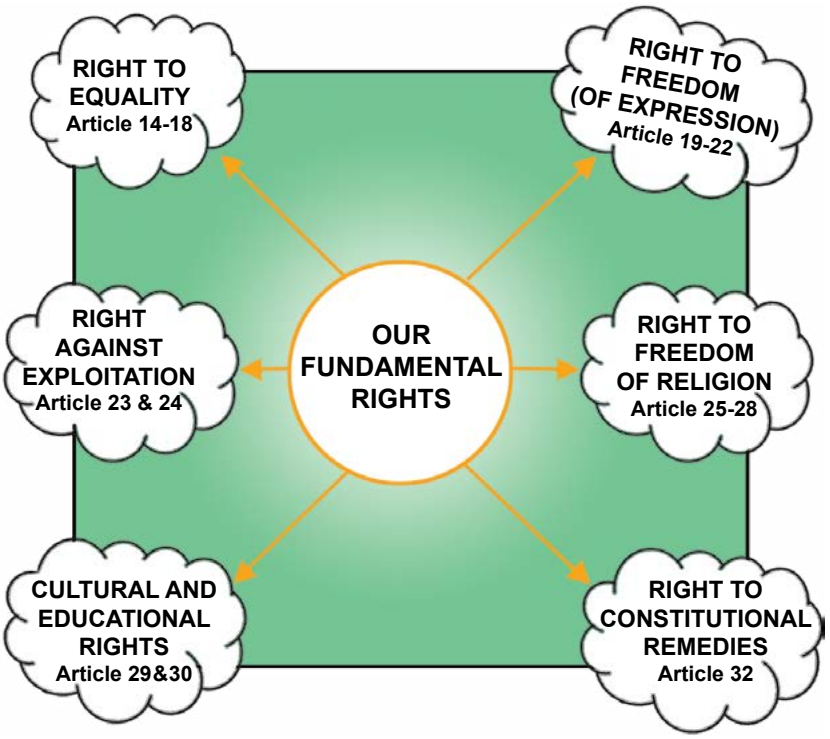
(ii) a procedure established by that law;

(iii) which is fair, just and reasonable,

then it could constitute an exception to this right.

It is interesting to note that the scope and boundaries of 'personal liberty' under Article 21 has gradually been expanded by the courts over the years. One of the earliest and elaborate discussions about this has been done in the judgment in the case of Maneka Gandhi v. Union of India (1978). This judgment ushered in a new era as far as interpretation of fundamental rights is concerned.

Facts of the case: Petitioner Maneka Gandhi's passport was



DO YOU KNOW ?

The Maneka Gandhi v. Union of India case was adjudicated by a seven-judge bench of the Supreme Court.

This judgment establishes a vital link between Articles 14, 19 and 21 – the 'golden triangle' of the Indian Constitution.

Maneka Gandhi

> **Article 21 of the Constitution states that no person shall be deprived of his life.**

impounded (seized/asked to be surrendered) under Section 10 of the Passport Act, 1967, which allowed for impounding in the 'interest of the general public.' Thus, she filed a writ petition under Article 32 of the Constitution, alleging that this action violated her fundamental right to life and personal liberty.

Decision of the Court: The Supreme Court decided that the provision under Section 10 was not unconstitutional.

It is important to note that the Court has widened the horizons of the right to life which means a right to live with dignity, not mere animal existence. This judgment has paved the way for a series of broad and liberal interpretations of fundamental rights, especially the right under Article 21.

In addition, a major legal principle evolved in this case is that a law which prescribes procedure for depriving a person of their right to life and personal liberty must not only stand the test of validity under Article 21, but also be valid under Article 14 and 19.

Kum Silpa Nandakumar

Azad Hind

India's First Independent Provisional Government

Netaji Subhas Chandra Bose lit hope for a free land with India's first independent provisional government – **Azad Hind**

Tales from the freedom struggle still echo after 74 years of an independent India. We went through rigorous phases of agitation and propaganda, boycotting of foreign goods, armed revolution, non-cooperation and self- sacrifice to free our land from foreign occupation.

None of those valiant men and women who selflessly gave their lives for the dignity of the motherland will be forgotten. One of the most distinguished persons among them, Netaji Subhas Chandra Bose, lit hope for a free land with India's first independent provisional government – Azad Hind.

Origin and Developments

Azad Hind, the brainchild of General Mohan Singh, was developed and formed by Rash Behari Bose, an Indian-Japanese revolutionary leader. He formed the government on 1st September 1942, drawing inspiration from the ideas of Subhas Chandra Bose. He also pitched the idea for an independent army to drive out the colonizers from India, which later materialized to become the Indian National Army.

Subhas Chandra Bose, a tactful leader and defiant patriot, who was called 'Netaji' (leader) by expatriates and greeted with

Rani of Jhansi Regiment was an all-woman soldiers unit under the Azad Hind Fauj

1000 rupees note issued by the Azad Hind Bank

Bose found the outbreak of the Second World War to be a convenient time to strike a blow and negotiate with the Japanese on an equal footing.

'Jai Hind', arrived in Singapore and formally announced the establishment of the Provisional Government of Free India on 21st October 1943. He declared, "It will be the task of the Provisional Government to launch and conduct the struggle that will bring out the expulsion of the British and their allies from the soil of India."

"The Azad Hind government had its own currency, court and civil code.

The government started functioning with 11 ministers and eight representatives from the Indian National Army. Bose held the positions of the Head of State, Prime Minister and Minister of War, while Captain Lakshmi Sahgal was the Minister of Women's Affairs. The INA proved to be a force to be reckoned with and was recognized by many countries including Japan, Germany, Italy, Indonesia and Burma, along with a few others.

Bose found the outbreak of the Second World War to be a convenient time to strike a blow and negotiate with the Japanese on an equal footing. He also recruited Indian civilians living in Japanese-occupied territories of South-East Asia and turned the Indian National Army into a professional army with the support of Japan.

The Azad Hind government had its own currency, court and civil code and played an important role in the independent struggle against British. It created waves in military nationalism and inspired revolts and uprisings within the forces of the British Indian army to overthrow the British Raj.

The charismatic leader

Subhas Chandra Bose gave the famous battle cry "Dilli Chalo" (On to Delhi!) and promised independence to Indians saying, 'Tum mujhe khoon do, main tumhe azadi dunga" (You give me blood, I will give you freedom).

The spell of Bose's charisma affected all including migrant Indian labourers who started demanding equality and stopped tolerating racial arrogance and prejudices.

Netaji's presence continues to be felt.

Lt. Gen Madhuri Kanitkar

"Don't give up. Our younger generation walks out very easily. I think it is important to hang on and make things work"

DO YOU KNOW?

DNB - Diplomate of National Board - a medical qualification awarded by the National Board of Examinations (NBE), approved by the GOI and considered equivalent to the postgraduate and post-doctoral programmes offered by the medical colleges in India.

Call her a soldier, a doctor or a teacher, Lieutenant General Madhuri Kanitkar has taken on all these roles with great determination and pride.

The 61-year-old had obtained her MBBS from the Armed Forces Medical College (AFMC), Pune, standing first in the university.

She is an MD and DNB in pediatrics. The Lt Gen has served as Dean of AFMC and has 22 years of experience in teaching and research. She was presented with the Best Teacher Award by MUHS in 2008.

Recalling her journey Dr. Madhuri says, "I was the CBSE topper and in those days… I could have walked into any medical college. When I chose AFMC, there was some skepticism… and how tough it is. But I did not think it was something difficult."

There was a point when she hesitated to follow her heart, scared of opposition at home. But it was her husband who encouraged her to go ahead with her plans. The constant support from him helped her persevere.

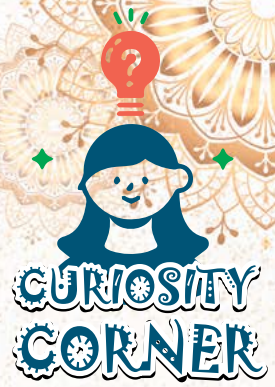
National Geographic India made a documentary – 'Women of Honour: Destination Army' as a part of its WOMEN OF HONOUR series on International Women's Day. One of the women featured in it was Dr.Madhuri Kanitkar.

HONOURS

- GOC-in-C Commendation Card; Chief of the Army Staff Commendation Card five times.
- Vishisht Seva Medal (2014) and the Ati Vishisht Seva Medal (2018).
- Third woman to hold Lieutenant General rank.
- First woman pediatrician to be elevated to this rank for Indian Army Doctors.
- Only doctor on the Prime Minister's STIAC (Science, Technology and Innovation Advisory Council).
- First trained pediatric nephrologist of the armed forces.

Smt Archana Sundar

FESTIVALS OF INDIA



Bhagoriya Festival

Bhagoria is a "Haat Market" where tribal culture and modern life meet the confluence of the people.

Mim Kut festival

It expresses exhilaration over the harvest of Mim (Maize), which is the last harvest crop for the season.

Bani Festival

It is something beyond any customary observance or practice. People gather at the Devaragattu Temple in Kurnool to hit each other on the heads to commemorate the killing of a demon by Mala-Malleshwara (Shiva).

Sekrenyi Festival

It is the major festival of the Angami. It signifies purification and sanctification (before going to war).

Theyyam

It is a product of the synthesis of ritual, vocal and instrumental music, dance, painting, sculpture and also literature.

Sammakka Saralamma Jatara

It commemorates the valiant fight of the mother and daughter duo i.e. Sammakka and Saralamma against the then Kakatiya dynasty rulers protesting exaction of land tribute even at the time of severe drought.

Vautha Mela

It is dedicated to Lord Kartik; it is onpar with the famous Camel Fair in Pushkar.

Minjar Festival

There are several legends associated with this festival. During the event people generally dress up in colourful silk costumes and offer prayers at the Laxmi Narayan temple for a thriving harvesting season.

Kila Raipur Rural Olympics

The major attractions are bull cart-race, mule cart race, horse cart race, kabaddi, short put, tug of war, 100 m -1500 m race, high and long jump, and race between tractors.

Lathmar Holi

Celebrating Holi by beating with sticks.

Hemis Festival

It is celebrated every year on the birth anniversary of Guru Padamsambhav. It marks the victory of good over evil.

Carnival – Cultural Festival

It is a unique carnival that showcases Goan culture, with a few hints of its Portuguese heritage.

Identify the name of the festival and the state in which it is celebrated based on the given clues:

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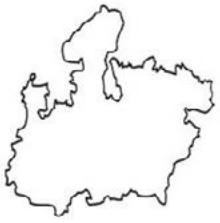

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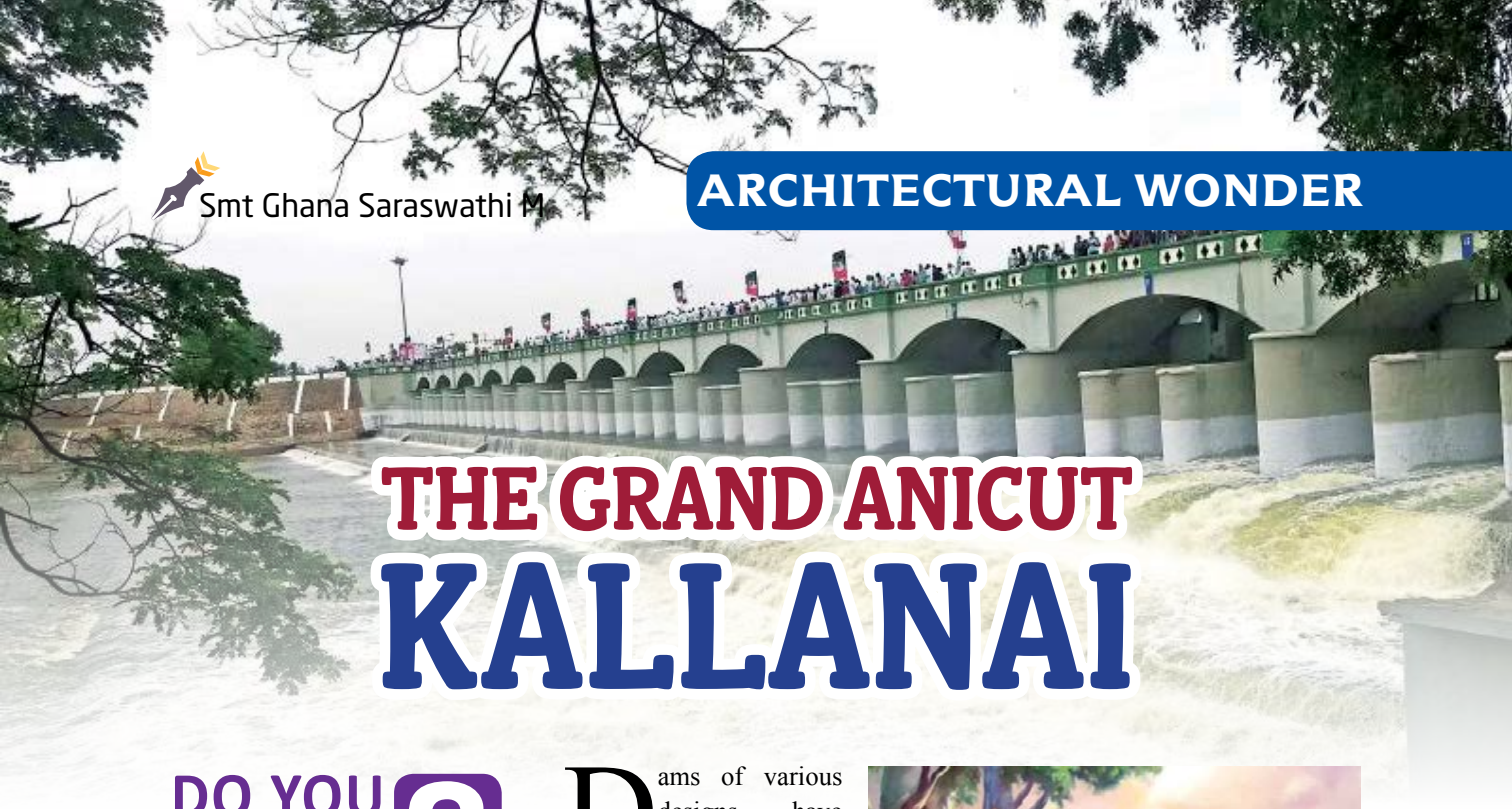
Answers
on Page 63

Smt Ghana Saraswathi M.



THE GRAND ANICUT KALLANAI

DO YOU KNOW ?

The Island of Srirangam

The Kaveri splits into two at a point 32 km west of Kallanai, forming the island of Srirangam before rejoining at Kallanai. The northern channel is called the Kollidam (Coleroon); the other retains the name Kaveri and empties into the Bay of Bengal at Poompuhar.

The Lower Anicut

built by Sir Arthur Cotton in the 19th century across Coleroon, the major tributary of Kaveri, is a replica of Kallanai.

Dams of various designs have been built by civilizations throughout history to divert water flow, irrigate land and generate power. But this one has a reputation for astonishing historians and engineers.

It's the 2000-year-old Grand Anicut in Tamil Nadu. This ancient engineering marvel has inspired dams used today throughout the world.

ONE-OF-A-KIND DESIGN

The Grand Anicut (originally the Kallanai) is built across Kaveri River to divert water into Tamil Nadu's fertile delta irrigating 69,000 acres of fertile land.

The uniquely designed original Kallanai dam had unhewn stones that worked well for both the environment and the residents prior to the British modifications.

The process involved the placement of one stone on top of another, letting erosion to correct their positions. Its features include the curved shape of the masonry section, an irregular descent, and a sloping crest. These reshaped the water current flowing towards the dam smoothly and it had a good sedimentation process.

One of India's oldest surviving dams is nothing short of a national treasure passed down several generations across centuries and still serving people.

Location: Thanjavur district, TN.

Built by: Karikala Chola

Period: 100 BCE – 100 AD

Type: Barrage (artificial barrier across a river)

Height: 18 ft

Length: 1079 ft

Width: 66 ft

LONAR CRATER LAKE

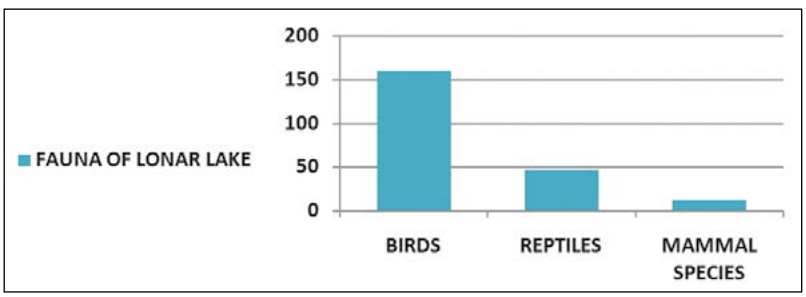
Lonar Lake (aka Lonar crater lake) is a notified National Geo-heritage monument, located at Lonar in the Buldhana district of Maharashtra.

The 1.8 km diameter Lonar crater was formed approximately 52000 years ago by the impact of a speeding meteorite that struck Earth at an unimaginable speed. The impact was so strong that lava splashed around the meteorite's periphery, forming igneous rocks all around.

LAKE ECOSYSTEM

The lake's chemical properties show two distinct regions that do not mix – an outer neutral (pH 7) and an inner alkaline (pH 11), each with its own flora and fauna. The lake is home to a diverse array of plant and animal life. There are 160 bird, 46 reptile, and 12 mammal species on the lake.

It is home to a variety of resident and migratory birds, including black-winged stilts, Brahminy ducks, grebes, shovelers, teals, herons, red-wattled lapwings, rollers or blue jays, baya weavers, parakeets, hoopoes, larks, tailorbirds, magpies and robins. Thousands of peafowls, choughs and other waterfowl are also found here. The monitor lizard is a prominent reptile found here.



With the accumulation of rain water in the crater over time, it became a crater lake with a sulphur spring within it. The lake has a diameter of 1.2 kilometres and is located 450 feet below the crater rim.

FAUNA OF LONAR LAKE

CHOUGHS

RED WATTLED LAPWINGS

BRAHMINY DUCK

BAYA WEAVERS

MONITOR LIZARD

BLUE JAY

GREBE

PARAKEET

DO YOU KNOW ?

The water in Lonar Crater Lake turned pink in 2–3 days in early June 2020. Low water levels and high salinity stimulated the growth of Halobacterium and increased carotenoid levels, resulting in colour change.

Answers of Page 60

1. Theyyam, Kerala
2. Bhagoriya, Madhya Pradesh
3. Bani, Andhra Pradesh
4. Hemis, Ladakh
5. Vautha Mela, Gujarat
6. Carnival, Goa
7. Sammakka Saralamma Jatara, Telangana
8. Minjar, Himachal Pradesh
9. Lathmar Holi, Uttar Pradesh
10. Mim Kut, Mizoram

PADMA AWARDEE
LAJWANTI
PHULKARI EMBROIDERY

Phulkari literally meaning 'flower work' is a traditional embroidered work originating in the 15th century.

PADMA AWARDEE - Lajwanti Devi (64) from Tripuri town (Punjab) was awarded the Padma Shri for keeping the Phulkari artwork alive. She was given Rashtrapati Award in 1995 for the same. Having learnt the Phulkari art from her maternal grandmother at just five or six, she eventually made it a full-time occupation with the support of her family members who also won national awards.

What is Phulkari work?

Phulkari literally meaning 'flower work' is a traditional embroidered work originating in the 15th century. It has special demand during marriage, festivals and other joyous occasions. Earlier, the Phulkarian technique was only used to craft attires for family members and never available in the market.

> "Lajwanti's family brought the traditional artwork along while migrating during Partition.

Lajwanti's family brought the traditional artwork along while migrating from Pakistan during Partition.

Her family knows how to make cloth, stitch, embroider and all kinds of Phulkari work, including Bagh, Sainchi, Chope and Subhar. Years ago the art started going downhill.

The artists were paid poorly. But thanks to the Central Government's efforts, Lajwanti's entire family have been able to help many women across Punjab, Haryana, Uttar Pradesh and Bihar earn for themselves.

Lajwanti says her work also goes abroad, "We get orders from NRIs.

Phulkari has become a viable business for artists, especially from poor backgrounds."

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BUY INDIAN

MADE IN INDIA

Vocal for Local

MANTRA FOR EVERY INDIAN

Making Startup and Business Owners Optimistic

MADE IN INDIA

NUDGING PEOPLE TO BUY INDIAN PRODUCTS

INDIA'S COVID VACCINATION PROGRAMME

Is the world's...

Largest

100 crore

vaccinations:

Cumulative coverage

Fastest

9 months:

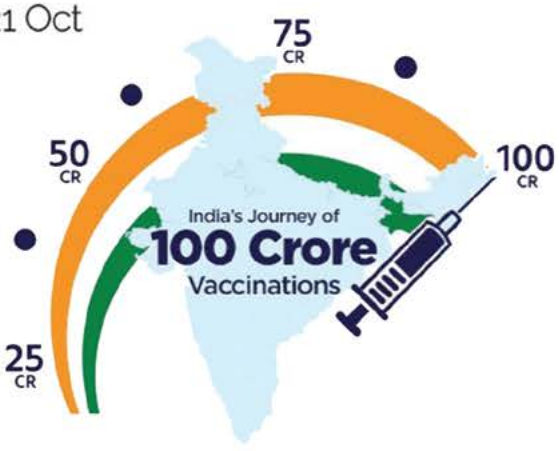
Time it took India to reach this milestone

One of the most accessible

Over **65%** of the total vaccine doses administered in rural areas

As of 21 Oct

World's fastest vaccination drive - 100 crore doses in 9 months



New records in New India