

DRONE TECHNOLOGY

Drone technology has rapidly evolved in recent years, transforming industries and everyday activities with its versatility and applications. From recreational enthusiasts capturing stunning aerial footage to complex military operations and innovative commercial uses, drones have become integral to modern technology.

Initially developed for military purposes, drones, also known as unmanned aerial vehicles (UAVs), have evolved significantly. They vary in size, ranging from small handheld models to large aircraft with wingspans exceeding several meters. Most drones are equipped with cameras, sensors, and GPS systems, enabling autonomous or remote-controlled flight.

Drones equipped with multispectral cameras monitor crop health, optimize irrigation, and assess soil conditions, thereby increasing agricultural productivity.

Drones survey construction sites, inspect infrastructure such as bridges and pipelines, and create accurate 3D models for planning and monitoring progress. Companies like Amazon and UPS are exploring drone delivery systems to expedite package transport, especially in remote areas. Drones aid in disaster management by providing aerial views for search and rescue operations, assessing damage after natural disasters, and delivering medical supplies to inaccessible areas swiftly. Drone technology has revolutionized photography and filmmaking, enabling breathtaking aerial shots in movies, sports events, and documentaries.

Hobbyists also enjoy flying drones for recreation and racing. Advancements in artificial intelligence and machine learning enable drones to perform complex tasks autonomously. They can navigate obstacles, follow designated routes, and even make decisions based on real-time data. Improvements in battery technology extend flight times, allowing drones to operate longer distances and durations. This enhances their usability across various applications.

Youth Empowerment and Societal Impact of Agniveer Scheme

BHARATH NANDA

The Agniveer Scheme, beyond its immediate benefits to the Indian Armed Forces, plays a pivotal role in empowering the youth and fostering a disciplined and motivated citizenry. This initiative is not just about creating a robust defense force; it is also about shaping individuals who can contribute significantly to national development across various sectors.

One of the most significant advantages of the Agniveer Scheme is its focus on youth empowerment. By recruiting young individuals and providing them with rigorous training, the scheme instills a strong sense of discipline, resilience, and responsibility. These qualities are invaluable, not only within the military but also in civilian life. As these individuals transition from military service to civilian roles, they bring with them a level of dedication and commitment that can drive national development. Whether in government, private enterprises, or entrepreneurial ventures, the disciplined and motivated workforce emerging from the Agniveer Scheme will be instrumental in advancing various endeavors of national development.

Furthermore, the scheme nurtures a profound sense of pride, nationalism, and unity among the recruits. Serving in the armed forces instills a deep appreciation for the nation and its values. These individuals, upon re-entering civilian society, become ambassadors of these values, promoting a sense of unity and national pride within their communities. Their experiences and the values they uphold serve as powerful examples for others, contributing to a more cohesive, integrated, and nationalistic populace.

As Agniveer recruits reintegrate into society, they carry forward the spirit of camaraderie and national service, fostering a culture of cooperation and mutual respect. This can lead to stronger community bonds and a more harmonious social fabric. The shared experiences and values of former recruits can bridge societal divides, promoting understanding and collaboration across different sections of society.

Moreover, the sense of pride and nationalism fostered by the Agniveer Scheme has the potential to inspire future generations. As former recruits share their stories and experiences, they can ignite a sense of duty and patriotism in young minds. This ripple effect can lead to a more engaged and proactive citizenry, ready to contribute to the nation's growth and well-being.

The Agniveer Scheme thus represents a holistic approach to national development. By empowering the youth and fostering a sense of unity and pride, it not only strengthens the armed forces but also enriches society as a whole. The disciplined, motivated, and nationalistic individuals emerging from this scheme are poised to drive positive change, ensuring that the values of dedication, commitment, and patriotism continue to thrive in every corner of the nation.

In conclusion, the Agniveer Scheme is more than a military initiative; it is a catalyst for societal transformation. By empowering the youth and promoting a sense of pride and unity, it lays the foundation for a stronger, more cohesive, and prosperous India. The legacy of the Agniveer Scheme will be seen not only in the strength of our armed forces but also in the vitality and dynamism of our nation.

(The author is a Geopolitical Analyst and IT Entrepreneur based out of Jammu)

Energy Opportunities - A Promising Investment Theme



ANKIT SHARMA

A world without energy would be dark and quite scary. The modern world is heavily dependent on energy supply. A quick look at the surrounding gadgets - be it your laptop, mobile phones, cars, air conditioners, kitchen appliances among others - one gets the realisation that our need for energy is growing. In fact, modern economies run the risk of collapsing without adequate supply of energy.

Interestingly, it is not only the households but factories, transport systems and communication, among others; which are heavily dependent on continuous energy supply. An energy supply gap often impacts the entire modern ecosystem. To ensure that energy supply remains uninterrupted, many companies and component makers in the sectors across Oil & Gas, Power, Renewables - Solar & Wind are incessantly working to address the rising energy needs.

Amid this, India needs a special mention as the country is one of the fastest growing and soon to become world's third largest economy. In other words, this would mean a tremendous rise in energy needs for India which would open a big window of opportunities going forward. And, opportunities bring investment themes along.

Currently, India is in a sweet spot when it comes to investment opportunities in the energy sector. There are various factors which would push up energy consumption in India. Continuous government's reforms with impetus on making India a manufacturing hub, rising urbanisation, increasing income, climate change and focus on renewable energy - all indicate substantial rise in per capita energy needs, which presently is a third of world's average.

As India's structural story remains strong and expected to grow at a robust pace, energy remains a major catalyst for India to realize its growth target. Investors who wish to capture the energy investment opportunities can do so via mutual funds. Currently, ICICI Prudential Mutual Fund has a New Fund Offer (NFO) underway, focused on the energy sector, open from July 02 to July 16, 2024. The scheme's investment universe includes companies involved in green energy, oil and gas sector, power and related sectors.

(The writer is Co-Founder, Financial Mart, J&K)

India's Family Planning Journey: Mapping our defining Moments and Challenges ahead



JAGAT PRAKASH NADDA

On this World Population Day (July 11), we reflect on India's incredible journey in family planning. We celebrate our successes, look forward to a future filled with promise, and reaffirm our commitment to address the challenges that lie ahead.

India's leadership and progress

As endorsed in the United Nations International Conference on Population Development (ICPD) at 30th conference in May 2024, India has not only firmly provided leadership to the ICPD agenda but also has demonstrated tremendous progress on the ground through improved family planning services and dramatically improving health outcomes, especially maternal health and child health.

Responding to demographic changes

Millennial women in India are opting for smaller families, averaging just two children each. This trend reflects a significant shift over the past decade, during which more than half of women (57%) in their reproductive age (15 to 49 years) have actively used modern contraception. This widespread use of contraception highlights the success of India's family planning program. However, family planning is about more than just contraception; it is integral to the health and well-being of women, families, and communities. It empowers women, girls, and youth by providing them with the rights and choices. With 369 million young people aged 10-24, India stands at a transformative demographic shift, poised to realize the dream of a Viksit Bharat.

Moreover, over the decades, the program has evolved significantly, adopting various approaches to family planning, ranging from clinic-based

to target-oriented methods, and now to the voluntary adoption of family planning choices. This variation represents the adaptation of policies to meet the changing needs of the population.

The National Population and Health Policies emphasize the necessity of addressing the unmet need for family planning, defined as the percentage of women who do not want to have children or want to delay childbearing but are not using any method of contraception. The program achieved a historic milestone in 2012 with the institutionalization of the Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH+A) approach, alongside the global emphasis on family planning through Family Planning 2020 and now Family Planning 2030. It has progressively focused on raising awareness, fostering community engagement, improving access to information and services, expanding the range of contraceptive choices, ensuring quality assurance of services delivered up to the last mile, and implementing innovative strategies in high-fertility regions.

Growth and development of a country is linked to population dynamics. The aim is to maintain and achieve replacement levels of fertility both nationally and sub-nationally. India has already achieved replacement level of fertility at National level (TFR 2.0) and 31 States/UTs have already achieved this milestone as per NFHS-5 (2019-21) constituting a success story in its journey.

Alongside Family Planning has also been recognised globally to reduce maternal and child morbidity and mortality and an important component of the program is to focussed on improving maternal and child health which has expanded overall policy objectives in a comprehensive manner.

The demographic diversity of Indian states is unique in the world, and family planning strategies have adapted accordingly. Along with broadening the range of accessible contraceptive options, the strategy also gives significant consideration to social issues such as age at marriage, age at first birth, and girls' educational attainment. These factors are crucial for creating a holistic approach to family planning that addresses the diverse needs of the nation.

Mission Parivar Vikas (MPV): Transforming Family Planning

The Mission Parivar Vikas, one of the key flagship Family Planning Programmes of

Government of India was launched in 2016 for increasing access to contraceptives and family planning services in 146 high fertility districts of seven states (Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, Chhattisgarh, Jharkhand and Assam).

It had a transformative approach to family planning services through extensive campaigns to create awareness using Saarthi Vaahans (Awareness-on wheels), Saas Bahu Sammelans to address social barriers for young women to access contraceptives and providing Nayi Pahal kits to newly married couples to sensitize them about family planning and responsible parenthood practices. At the same time, the health system was geared up to provide quality services and uninterrupted supplies of contraceptives using a robust Family Planning Logistics Management Information system.

The uptake of modern contraceptives improved significantly, faster in the programme districts indicating a positive impact of MPV interventions. These improvements in the uptake of modern contraceptives in the MPV districts led to the Government's decision to scale up this programme to all districts of the seven states and in six North-Eastern states in 2021.

Expanding the Basket of Choice under the National Family Planning Programme:

To match the changing demographics and needs of the population, the contraceptive basket has been expanded in Financial Year 2016-17. Currently, the National Planning programme offers a variety of reversible modern contraceptives encompassing condoms, Intrauterine Contraceptive devices, oral pills, MPA Injections etc. In 10 states, covering two districts each, subdermal implants and subcutaneous injections (Antara-SC) are in the initial rollout stage, with plans for further extension to pan-India in the coming years.

A Call to Action

As we commemorate World Population Day 2024, themed "Healthy Timing and Spacing of Pregnancy for the Health and Well-being of Mother and Child," we acknowledge the efforts of our state counterparts and the relentless dedication of our health workforce, including ANMs, ASHAs, and other ground-level functionaries who are at the forefront of delivering crucial information and services. A significant proportion of the world's youth, adolescents, women, and chil-

dren live in our country, giving us the unique gift of a demographic dividend while highlighting the critical need to invest in the health and well-being of our people.

Access to quality healthcare services and a wide range of contraceptives is crucial. The government is committed to overcoming barriers related to access, misconceptions about contraceptive methods, lack of awareness among clients, geographical and economic challenges, and restrictive social and cultural norms. Substantial investments are being made to improve family planning service delivery, including ensuring the availability of both temporary and long-term contraceptive methods, adequate budgetary allocations, and maintaining uninterrupted supplies at health facilities and through community workers. Additionally, family planning services are being extended to the last mile through Ayushman Arogya Mandirs. Given the rapid evolution of the digital world, the government is committed to utilize the opportunity effectively to connect and disseminate our vision, ensuring no one is left behind in terms of access to information and services.

Achieving our family planning goals requires collaboration and dedication from all stakeholders. Prioritizing the reproductive health of our youth by expanding the range of contraceptive methods is essential. Furthermore, India's demographic dividend must navigate the complexities of sustainable development, urbanization, and migration. Integrating these factors into our policies ensures that demographic growth translates into a sustainable future and inclusive prosperity for all segments of society.

The reverberating echoes of successful goal interventions must be in tandem with niche strategies, crocheting together loose threads to pave the way for promising growth ahead.

On this World Population Day, let us pledge to build a brighter and healthier future for all, with a special focus on marginalized and vulnerable communities across India. Let us strive for a future where our demographic dividend is fully realized, where every citizen has access to quality healthcare, and where the health and well-being of our people are the foundation of our nation's progress and prosperity.

Together, we can make this vision a reality. (The writer is Union Minister, Health and Family Welfare and Chemicals and Fertilizers, Government of India)

Forests mitigate air pollution

C.L. KHAJURIA

Forest is biological community having complex social organisation of living communities at work. Trees play a crucial and prominent part in conserving soil, water and moisture. These take up water from soil through a process of ascent of Sap and release it into the air or atmosphere through transpiration and this process continues as a result of condensation.

The cycle of water absorption from the soil and condensation causes rainfall and this process also continues. At ecosystem level under such conditions these function as important sinks of air pollution. When exposed to intermediate dose, the individual tree species may be subtly and are affected by nutrient stress, impaired metabolism, predisposition to entomological or pathological stress as direct disease induction.

Exposure to high dosage may, however, induce acute morbidity or mortality of a specific tree species. For the survival of any living organism, clear air is vital. The earth's atmosphere is a mixture of gases, water vapours and a variety of solid particles and the liquid particles. Pollution of air has been defined as the presence of solid, liquid and gases substances in the atmosphere in such concentrations as may be injurious to humans, plant and animal life or property.

In some of the cases, the composition of air is not confined to only to the cities. Volcanic eruptions, forest fires and dust stirred up by the storms, winds, pollen hair and other suspended particles and other living particles such as bacteria and viruses can do contaminate atmosphere.

Nearly 300 million tonnes of air pollutants are emitted onto the air which is much more than that can absorb into natural system safely. Air pollution from human activity commenced when the human learnt to use fire. But large scale of air pollution is relatively

of recent development, mainly due to accelerated industrial activity. Further, the contaminants by the nature of activities that produce them are likely to be omitted into the air in thickly populated region. Therefore, the effect even if small or on global scale may be locally severe. The estimate level that increase of 60C in the global mean temperature due to addition of enormous quality of carbon-dioxide in to the atmosphere is likely to create climate condition that earth has never experienced for the last 70 million years. Even if the actual increase in the temperature is smaller than anticipated, it would be enough to meet large volume of polar ice and raise the sea level.

5 Meter. Similarly, the ozone in the stratosphere effectively blocks much of the harmful solar ultraviolet radiations that would otherwise reach to earth's surface. The present calculation indicate around 18% of ozone layer will be adversely affected by the man-made chemicals.

Half the ozone layer destruction nearly 8% will occur in the next 35-40 years. Both industries and urban communities pollute and contaminate the air with substances that are dangerous to human and other living organisms in the environment. Such pollutants include radio-active dust, salt spray, herbicides, aerosols, combustion of coals, manufacture of bricks, ceramics, cement, glass, phosphate fertilisers, liquids droplets o acid matter; gasses and solid particles.

These substances can act alone to irritate all forms of life, or more dangerously, they join together to act adversely upon the environment. Nuclear Power Station of U.S.A. etc are warning signals both for the developed and developing countries.

Air pollution may be removed from the atmosphere by a variety of mechanism. The primary natural process of cleansing the environment are precipitation, chemical reaction,

dry deposition or sedimentation and absorption.

However, the plant communities such as forests and other plantations play prominent part in mitigation environmental pollution. Plants or forests are efficient enough to sink for many gaseous pollutants. The interception and retention of atmospheric particles by plant is highly variable and primarily dependent on size shape, wetness and surface texture of the particles and as well as intercepting plant parts with micro and ultramicro climatic condition of the surrounding. Smaller leaves are generally more efficient particle collectors than large leaves. Particle deposition is heaviest at the leaf tip and long leaf margins. Leave with complex shapes and large circumstances are ratios collect particles more sufficiently.

The tree may be specially efficient filter of carbon particles because of large size, high surface to volume ratio of foliage, petioles, twigs and frequently hairy or rough leaf, twigs and bark surfaces. Because the interior portions of forest stands act still the air; mean wind speeds are reduced and particle deposition will be augmented.

When vegetation surfaces are wet or damp the pollutants removal rate may increase upto ten folds. Under damp conditions, the entire plant surface i.e. leaves, twigs, branches, stems are available for absorption. Light also plays a critical part in determining physiological activities of leaves and stomatal openings and as such exert great influence on foliar removal of pollutants.

Under conditions of adequate soil moisture, pollutants absorption of gaseous pollutants absorption by vegetation is constant throughout the day as the stomata are fully open. Moisture stress sufficient to limit stomatal opening and relatively common in urban environments would severely restrict absorption of gaseous pollutants diffusivity rates are

greatest. Sulphur and nitrogen oxide are taken in respiring leaves in the dark, but uptake rates are greatly reduced as compared to the rates in the light.

Under certain environmental circumstances, especially where tree surfaces are wet and the leaves are metabolically active, biologically and medically significant reduction in ambient levels of sulphur dioxide, Nitrogen dioxide ozone and hydrogen fluoride may be realised by stands of trees for extended periods as long as the atmospheric loading of the containment go is not excessive.

Apart from forest fires, which is one of the most sources of air pollution during the course of metabolism, a variety of woody plants release certain carbon, sulphur, nitrogen oxide particulates and volatile hydrocarbon. From the point of view of human health, a huge quality of pollens are released during the reproductive phase by the forest trees which would be allergic some times.

High air pollution may result in severe perturbation in the ecosystem structure and function these situations involve the impact of gaseous pollutants such as release from industrial sources, on surrounding forests. In extreme situations, irrespective of specific pollutants, forest communities react first by losing sensitive species, second by losing the tree stratum and third by maintaining cover of resistance shrubs and herbs widely recognised as aerial successional species in less extreme situations, the losses of sensitive species followed by maintenance of tree stratum.

Field systems of air pollution are not highly specific mimicked by a wide variety of other tree stress factors and can be recognised only by edaphic, entomological, pathological and stress factors characteristic of a given flora in a given location.

(The author is former Deputy Conservator J&K Forest)

Muslim women's entitlement for alimony

K.V. SEETHARAMAIAH

The Supreme Court has reiterated that Muslim women are entitled for alimony from their ex-husbands like non-Muslim women. It is correct that religion should not matter.

Liability to give maintenance to the ex-wives by the men has not caused significant dent in the instances of divorce.

If men are freed from the liability of their obligation to pay the maintenance amount to the divorced wife, divorces cases increase beyond imagination.

Under Muslim Law, the alimony is paid to the divorced woman for the iddat period. The iddat period is 3 months and 13 days.

Muslim men can wash their hands by paying alimony only during iddat period. This easy-going spurs more number of divorce cases.

The impact of divorces cases is more pronounced if the husband and wife fall apart after the children are born. The plight of children to keep away from either father or mother would be miserable.

The Supreme Court has stated that a divorced Muslim woman is entitled to seek maintenance from her husband under Section 125 of the Criminal Procedure (CrPC). Justices B.V. Nagarathna and Augustine George Masih have

rejected the argument that the Muslim Women (Protection of Rights and Divorce) Act 1986 enacted after the Shah Bano judgment will prevail over the secular law.

In the event of conflict between the personal law and the secular law, the secular law prevails, or has to prevail over the personal laws.

The apex court has declared in unambiguous terms that Section 125 of the CrPC applies to all married and divorced women irrespective of the religion.

Women who have married under Special Marriages Act are not precluded from the entitlement of alimony. It has been held that there cannot be disparity in receiving maintenance on the basis of the law under which a woman is married or divorced.

Justice Nagarathna underlines the need for financial stability and empowerment of married women in her judgment upholding the rights of divorced Muslim women to seek maintenance.

She lays emphasis for protecting financial security and security of residence for women empowerment.

The top court makes it abundantly clear that the rights seeking maintenance under Section 125 of CrPC are in addition to and not in lieu of the rights granted under the 1986 Act. The question arises as to what has a divorced Muslim

woman to do for the rest of her life if maintenance is paid to her for only iddat period.

It may be recalled that the judgment delivered by the Supreme Court in the Shah Bano case was annulled by the 1986 Act.

The Act allowed entitlement to Muslim women 'reasonable' and 'fair provision and maintenance' from her husband within the period of iddat. The question 'what is reasonable and what is fair' remains unanswered.

The Act is believed to have been passed for nullifying the effect of Shah Bano judgment where the Supreme Court delivered its judgment in favour of Shah Bano with regard to the payment of maintenance.

The argument of Mohd Ahmed Khan, husband of Shah Bano that the letter ceases to be his wife and hence not liable to pay maintenance and under Islamic law is turned down by the Supreme Court.

The court rules in favour of Shah Bano. The passing of the 1986 Act did not give substantial relief to the divorced Muslim woman.

It upheld the Muslim personal law only. The Rajiv Gandhi government is said to have passed the law with an eye on Muslim vote bank. It is ridiculous to think that the retention of the Muslim personal law in a different form could fetch votes.

If opposition to pay maintenance amount beyond iddat period is opposed by the Muslim men, continuance of alimony beyond iddat period is likely to be welcomed by the Muslim women.

The loss of Muslim men votes is compensated by the gain of Muslim women votes.

The annulment of Supreme Court judgment in the Shah Bano case could not benefit substantially.

The Supreme Court has also ruled that a woman in live-in relationship is also entitled for maintenance if the relationship strains and the man and woman in live-in relationship fall apart. Live-in relationship has been recognized to be a valid marriage by the Supreme Court if the man and woman live together for a long time. What is 'long time' has not been defined.

The alimony is fixed by the court depending upon the merits of the case. It would be in fairness of things if the income of the man is divided by the number of members at the time of divorce and the dividend is distributed equally among the members at the time of grant of divorce.

In doing so, all the men think many times before seeking divorce.

Divorce cases bring misery not only to the husband and wife but also to the parents and children of the divorced couples. Divorce should be more an exception than a norm.