"If you use your mind to study reality, you won't understand either your mind or reality. If you study reality without using your mind, you'll understand both. -Bodhidharma"

ENTREPRENEURSHIP: CATALYST FOR ECONOMIC GROWTH

In an era defined by rapid technological advancements and global economic shifts, entrepreneurship has emerged as a critical driver of progress, innovation, and societal transformation. Beyond being merely a career option, entrepreneurship embodies the spirit of creativity, resilience, and self-reliance, offering individuals the opportunity to not only shape their own destinies but also contribute significantly to national and global economies.

Entrepreneurs are the architects of innovation. They identify gaps in markets, conceive solutions, and bring ideas to life, transforming everyday challenges into opportunities. From small-scale start-ups to high-tech ventures, entrepreneurial initiatives drive competitiveness, efficiency, and quality. In India, for example, the startup ecosystem has witnessed exponential growth over the past decade, producing unicorns like Flipkart, Byju's, and Zomato. These enterprises not only generate employment but also inspire a culture of creativity and risk-taking among aspiring professionals.

One of the most remarkable features of entrepreneurship is its ability to promote self-sufficiency and financial independence. In a country with a population exceeding 1.4 billion, traditional employment avenues alone cannot meet the aspirations of the youth. Entrepreneurship offers an alternative, empowering individuals to take charge of their careers, innovate, and create value. Moreover, entrepreneurial success stories often motivate others to think differently, fostering an environment where innovation and problem-solving become central to professional life.

Education and skill development play a pivotal role in nurturing entrepreneurial talent. While traditional academic curricula emphasize theoretical knowledge, entrepreneurship requires practical exposure, critical thinking, and decision-making under uncertainty. Recognizing this, several educational institutions and government initiatives have introduced programs such as incubators, mentorship schemes, and start-up funding opportunities to cultivate entrepreneurial mindsets. These interventions are crucial in equipping young innovators with the knowledge and confidence to transform ideas into viable businesses.

Entrepreneurship also acts as a bridge between technology and society. In sectors such as healthcare, agriculture, fintech, and renewable energy, entrepreneurs have pioneered solutions that address pressing social challenges. For instance, innovations in agri-tech have enabled farmers to increase yields and access markets efficiently, while health-tech startups provide affordable diagnostic services to remote populations. By integrating technological advancements with practical applications, entrepreneurial ventures can significantly enhance the quality of life and promote sustainable development.

However, entrepreneurship is not without its challenges. The path of starting and sustaining a business is fraught with uncertainties-financial constraints, regulatory hurdles, and market competition often test the resilience of even the most determined individuals. Yet, it is precisely this journey of overcoming obstacles that fosters innovation, perseverance, and adaptability-qualities that are indispensable for long-term success. Societies that recognize, support, and reward entrepreneurial efforts are better positioned to harness the transformative potential of innovation.

Governments and policymakers have a critical role to play in creating an ecosystem that encourages entrepreneurship. Simplifying regulatory frameworks, providing financial incentives, supporting research and development, and ensuring access to technology and markets are essential measures to stimulate entrepreneurial activity.

2025: The Turning Point in India's Technological Self-Determination

The year 2025 marked a defining inflection point in India's scientific and technological journey, as the nation emerged with renewed confidence and global stature across frontier domains. It signals a fundamental reorientation in India's relationship with technology itself. From artificial intelligence and semiconductors to space exploration, nuclear energy and critical minerals, India demonstrated that it is no longer merely adopting global technologies but shaping them. For the first time in India's independent history, technological self-determination is not a dream but an unfolding reality, firmly aligned with the vision of Viksit Bharat@2047.

AI Revolution: Powering the Digital Backbone

Under the India AI Mission, the Government of India has committed substantial investments, over Rs 10,000 crore, to establish India as a pioneer in ethical, human-centric artificial intelligence. The ambition is to ensure that artificial intelligence becomes a tool for social democratization, especially across India's vast rural-urban divide. In Q1 of FY26, India announced a significant expansion of India's national AI infrastructure, adding 15,916 new GPUs. India's national compute capacity has now crossed 38,000 GPUs. These GPUs are available at subsidised rates of Rs67 per hour, substantially below the average market rate of Rs115 per GPU hour. This pricing architecture is itself policy, designed to democratize access to cutting-edge compute infrastructure.

Recently India has made a remarkable leap to third place in Stanford University's 2025 Global AI Vibrancy Tool. India ranked 3rd in AI competitiveness after the US and China. This puts India ahead of several advanced economies, including South Korea, the United Kingdom, Singapore, Japan, Canada, Germany and France. This highlights that how India's fast-growing tech ecosystem and strong talent base are helping the country play a key role in the global AI race.

India's New Era of Self-Reliance in Semiconductors

For the first time in India's history, a government has made semiconductor manufacturing the centerpiece of India's technology mission. In May 2025, India took a major step forward with the launch of two advanced facilities in Noida and Bengaluru, dedicated to 3-nanometer chip design. These facilities represent far more than manufacturing capacity; they symbolize the beginning of India's journey from importing 90% of its semiconductor requirements to architecting its own future in this strategically critical domain.

3nm chips are the core of the world's most advanced technologies, from smartphones and laptops to high-performance computers. The 7 nm processor is also being developed by the IIT Madras, a key institution in India's processor design ecosystem through its SHAKTI initiative. Also in September 2025 India's first indigenously developed Vikram-32-bit chip was presented to PM Modi at the inauguration of the Semicon India 2025 conference. This "vocal for local" ethos, championing swadeshi chip ecosystems and indigenous IP marks a strategic pivot.

Behind this statistic lies a geopolitical calculus: as global supply chains fragment along ideological lines, India's domestic semiconductor capacity represents both economic resilience and strategic insulation. In 2025 alone, India approved 5 more semiconductor units, bringing the total to 10 semiconductor units across six states, with cumulative investments of around Rs 1.60 lakh crore. The deeper ambition is to capture 10% of the global semiconductor consumption by 2030 positioning India as a global hub for design, manufacturing, and innovation.

Strategic Rare Earth and Critical Minerals Mission

Just as steel is essential for building skyscrapers, critical minerals are the bedrock for building semiconductors. Without them, there can be no advanced electronics, no AI, and no digital future. And therefore the Modi government launched the National Critical Mineral Mission in January 2025 with expenditure of Rs. 16,300 crore to secure India's demand for rare earths and strengthen our self-reliance in semiconductors, electronics, and electric mobility.

By developing a robust domestic supply of these minerals, India will be able to reduce its reliance on imports from countries, which currently dominate the supply chain for many critical minerals. GSI, in the FY 2024-25, has taken up 195 mineral exploration projects for critical and strategic minerals across the country. In the FY 2025-26, a total 227 projects are under execution. During the 2025-26 Budget, the Modi government exempted cobalt powder and waste, the scrap of lithium-ion battery, Lead, Zinc and 12 more critical minerals. and took fiscal measures designed to incentivize domestic processing and recycling.

Stronger Push Towards a Circular Economy Angle

A particularly forward-thinking element emerged in 2025: India approved a Rs1,500 crore recycling scheme (2025-26 to 2030-31) to build domestic capacity for recycling critical minerals like lithium, cobalt, nickel, and rare-earth elements. This transforms the narrative from pure extraction (with its attendant environmental costs) to closed-loop resource management. As the world's clean energy transition accelerates and e-waste mountains grow, India positions itself not merely as a source of virgin materials, but as a hub for resource recovery and circular manufacturing.

Space Science & Technology: Gaganyaan & Beyond

Space technology continued to be a hallmark of national pride. ISRO executed some of its most complex and globally significant missions. A major highlight was the successful launch of NISAR (NASA-ISRO Synthetic Aperture Radar) on July 30, 2025, aboard the GSLV-F16. This historic Indo-US collaborative mission is the world's most advanced Earth-observation radar satellite.

India's human spaceflight ambitions also reached a historic milestone in July 2025, when Group Captain Shubhanshu Shukla became the first Indian astronaut to travel to the International Space Station (ISS). Flying as part of the Axiom-4 mission, he spent 18 days aboard the ISS, conducting scientific experiments and international collaborative research. This positions Indian scientists within the global research commons and signals that India can participate as an equal in humanity's most ambitious endeavours.

Later in the year, ISRO achieved another milestone with the launch of CMS-03 on November 2, 2025, using the LVM3-M5 rocket. Weighing about 4,400 kilograms, CMS-03 is the heaviest satellite ever launched by India, showcasing the enhanced heavy-lift capability of the LVM3 launch vehicle, it was placed in GTO.

Recently in December 2025, PM Modi inaugurated Skyroot Aerospace's new Infinity Campus in Hyderabad and unveiled the company's first orbital rocket, Vikram-I, designed to launch satellites into orbit. Allowing private participation in the space sector since 2020 is going to give amazing results for India in just a decade. The establishment of IN-SPACe (Indian National Space Promotion and Authorization Centre) has catalysed a thriving ecosystem of private innovators. Approximately 330 industries, startups, and MSMEs are now associated with IN-SPACe for authorization of space activities. In 2025, IN-SPACe (Indian National Space Promotion and Authorisation Centre) and ISRO achieved major milestones, including India becoming the fourth nation with in-space docking via the SpaDeX mission . India's space industry is projected to grow from around $8.4 billion to $44 billion Indian by 2033 .

Nuclear Energy Expansion & Energy Transition

2025 also marked critical progress in India's nuclear sector. In December 2025, union cabinet approved the Atomic Energy Bill, 2025, branded as SHANTI - (Sustainable Harnessing and Advancement of Nuclear Energy for Transforming India). This legislation marks the most significant reform in India's atomic energy sector since its inception, opening the doors for private participation in a domain. It replaces the Atomic Energy Act, 1962 and the Civil Liability for Nuclear Damage Act, 2010 with a unified, modern legal framework aligned with contemporary international best practices.

India's nuclear generation hits all-time high as NPCIL crosses 56,681 MUs in FY 2024-25. PM Modi has laid the foundation stone for the 4-unit Mahi Banswara NPP in Rajasthan in September, 2025. The project will have four units of PHWR - 700 MW. First two units of the indigenous 700 MWe PHWR at Kakrapar, Gujarat (KAPS - 3 & 4) have received AERB license for regular operation. Rawatbhata Atomic Power Project (RAPP) Unit 7, the 3rd indigenous 700 MWe PHWR in a series of 16 sanctioned reactors, started commercial operation in April.

Indigenously developed Certified Reference Material (CRM) named 'Ferrocarbonatite (FC) - (BARC B1401) formally released in November 2025. This is the first such CRM in India and the fourth in the world. It is considered crucial for rare earth element ore mining.

Rapid Transformation in Research and Innovation Ecosystem

The Modi Government has also placed R&D at the heart of its journey towards Viksit Bharat@2047. Launched on November 3, 2025, the Research Development and Innovation (RDI) Scheme Fund of Rs1 lakh crore marks a landmark step in strengthening India's research and development ecosystem.

In a key step to strengthen India's science and technology ecosystem, PM Modi approved the unification of three major umbrella schemes under a single central sector initiative, 'VigyanDhara', with a total outlay of Rs10,579.84 crore. It focuses on training more scientists, upgrading laboratory infrastructure, and ensuring that scientific discoveries move quickly from the "lab to the land" to solve real-world problems. By streamlining funding and reducing duplication, the scheme aims to make India's scientific ecosystem more efficient and globally competitive.

Under the decisive and future-oriented leadership of PM Modi, the country accelerated innovation, expanded indigenous capabilities, and reinforced technological sovereignty. This transformative momentum positioned India not just as a participant, but as a front-rank leader in the global science and technology revolution.

Antahkarana: A Profound Tribute to Inner Wisdom and Legacy for the Journey of Life

■ **P K MAM**

'The senses are superior to the gross body, and superior to the senses is the mind. Beyond the mind is the intellect, and even beyond the intellect is the soul " BG 3/42

The concept of Antahkarana, rooted in ancient Indian philosophy, particularly in Yoga and Vedanta, is a profound and multifaceted idea that explores the intricacies of the human mind and consciousness. Antahkarana, often translated as the "inner instrument" or "internal organ," refers to the complex mechanism that governs our thoughts, emotions, and actions.

The Significance of Antahkarana

Antahkarana is composed of four primary components: Manas (Mind), Buddhi (Intellect), Ahamkara (Ego), and Chitta (Memory). Each of these components plays a crucial role in shaping our experiences and interactions with the world.

1. Manas (Mind): The Manas is the processing center of the mind, constantly receiving and interpreting sensory information. It is like a gatekeeper, determining what information to allow into our conscious awareness. For instance, when we encounter a new situation, our Manas quickly assesses the situation, drawing on past experiences and learned patterns to make sense of it.

2. Buddhi (Intellect): Buddhi is the discerning faculty of the mind, responsible for making decisions and judgments. It is the intellect that helps us distinguish between right and wrong, truth and falsehood. In the Bhagavad Gita, Lord Krishna emphasizes the importance of Buddhi in navigating life's challenges. He advises Arjuna to use his Buddhi to rise above doubts and confusion, to see things as they truly are.

3. Ahamkara (Ego): Ahamkara is the sense of individual identity, the "I-ness" that defines our sense of self. It is the ego that creates a distinction between ourselves and others, often leading to feelings of separation and comparison. However, Ahamkara also plays a crucial role in self-preservation and self-expression. When balanced, it fosters self-confidence and self-respect.

4. Chitta (Memory): Chitta is the storehouse of memories, impressions, and consciousness. It is the reservoir from which our thoughts and emotions arise. Chitta is like a vast ocean, with waves of memories and impressions constantly stirring beneath the surface of our conscious awareness. These memories shape our perceptions, influence our decisions, and colour our experiences.

Understanding the Interplay of Antahkarana

The four components of Antahkarana work together in a delicate balance, influencing our thoughts, emotions, and actions. When this balance is disrupted, it can lead to confusion, conflict, and suffering. As the Bhagavad Gita (3.42) explains, there is a hierarchy of consciousness, with the self (soul or Atman) being superior to the body, mind, and intelligence.

The Importance of Inner Awareness

In today's world, innovation has improved our quality of life, but it has also led to a neglect of our inner world. We have created AI, but instead of controlling it, we have allowed algorithms to control our minds. It's essential to strive for harmony between our outer progress and inner awareness. As Kabir, the mystic poet, said, "Like oil in the sesame seed, and fire in the flintstone, your enlightenment is inside you!" One cannot fully grasp another's inner world, as it remains private and subjective. The true challenge is seeing beyond the masks to understand the inner world. The outer appearance is often gross and deceptive, while the inner mind is subtle and profound. This understanding encourages us to look inward, to explore and understand our own minds, rather than relying solely on external validation or superficial observations.

Cultivating Inner Wisdom

Way Forward: (Attaining Antahkarana)

To attain Antahkarana, the inner self that embodies purity, peace, and truth, we can adopt several practices to aid our journey. Some key practices to consider:

Mindfulness, Awareness, and Meditation: Regular practice can help calm the mind and reveal inner peace.

Self-Inquiry: Reflecting on our thoughts, emotions, and actions can help us understand ourselves better.

Virtue-Cultivation : Embracing qualities like compassion, forgiveness, selfless service, and humility can transform our relationships and inner world.

Letting Go: Releasing ego, desires, and malice can create space for inner growth and peace.

By incorporating these practices into our daily lives, we can move closer to attaining Antahkarana and experiencing lasting peace, purity, and truth. As we walk the path of righteousness, Antahkarana becomes a continuous process of evolution, and to destroy the negativity of the baser elements of our true nature.

A Personal Reflection & Tribute to Wisdom

My mother's frequent use of the term _Antahkarana_ in our conversations was more than just a reference to an abstract concept. She would often encourage me to look beyond the superficial and engage with my own mind and emotions. Though she is no longer with me, her guidance through the concept of _Antahkarana_ continues to influence my life. The inner instrument she spoke of has become a part of my daily experience, reminding me of the values she instilled in me. Her legacy lives on, inspiring me to cultivate inner awareness and wisdom.

Conclusion

In conclusion, Antahkarana is a profound and multifaceted concept that offers valuable insights into the nature of the mind and consciousness. By understanding and harmonizing the components of Antahkarana, we can achieve greater clarity, inner peace, and self-realization. As we strive to cultivate a deeper understanding of ourselves and the world around us, let us remember the wisdom of Antahkarana and its relevance to our daily lives.

Agriculture-the backbone of India's economic development

■ **DR BANARSI LAL**

Every year 23rd of December is observed as the National Farmers Day or Rashtriya Kisan Diwas in all the states/UTs of India to honour the birth anniversary of the fifth Prime Minister of India, Choudhary Charan Singh with full enthusiasm and joy. On this day the awareness among the citizens is created to understand the importance of farmers in the society for the overall social and economic development of the nation.23rd of December is celebrated as the birthday of Choudhary Charan Singh. He was born on 23 December, 1902 at Noorpur in Meerut district of Uttar Pradesh in a peasant family. He was the proponent of rural and agricultural development. On this day several debates, seminars, webinars, quiz competitions, discussions, workshops, exhibitions, essays, functions etc. are organized by various institutions especially on agriculture across the nation. Farmers and people of rural society held agricultural concerts and celebrations and pay reverence to their adored leader. Choudhary Charan Singh was primarily a peasant and always led an extremely simple life. Choudhary Charan Singh held the office as the fifth Prime Minister of India from 28th July 1979 to 14th January, 1980. He is well known for the budget he represented in 1979.That budget was amalgamated to accomplish the needs of the farmers and included everything that a farmer expects. During his tenure as the Prime Minister, he introduced many policies to improve the lives of the Indian farmers. He took initiatives for the welfare of the farmers and united the farmers' community against the landlords and money lenders across the nation. He always followed the famous slogan 'Jai Jawan, Jai Kisan' given by the 2nd Prime Minister of India, Sh. Lal Bahadur Shastri. He was an avid writer and wrote several books depicting his thoughts on the lives of the farmers. He always tried to find out the solutions of various problems of the farming community. Choudhary Charan Singh passed on 29th of May, 1987 but his contributions for the farmers are still known. Sh.Charan Singh's peasantry background helped him to understand the real problems of the farmers and he did his best to solve them. He was a son of soil and he contributed immensely to improve the lives of the farmers. Choudhary Charan Singh is credited to formulate and implement the Zamindari Abolition Act. He was the founder of Kisan Trust which was a non-political, non-profit making body on 23rd of December 1978. Farmers Day is celebrated to recognize his valuable services rendered to the farmers of the country. The famous 'Kisan Ghat' in New Delhi is dedicated to Choudhary Charan Singh due to his services for the farmers. Various agricultural institutions and farmers organize agricultural based programmes to pay homage to their beloved leader.

India is known as the country of villages. It is predominantly an agricultural country and agriculture is the backbone of India's economic development. More than 80 per cent of the rural population of India contributes about 18 per cent of the country's Gross Domestic Product (GDP). Agriculture sector is unquestionably the largest livelihood provider and is considered as the largest private enterprise in India. India is the land of villages and agriculture is the main source of income for the farmers. About 70 per cent of the Indian population still thrives on the income generated through cultivation. Farmers are the spine of India. This sector provides the commodities and raw material required in non-agriculture and industrial sector. Agricultural sector is undergoing a structural change with respect to its farm size, cropping pattern and share in the national Gross Value Added (GVA).Now we have achieved high crops production but still there is agrarian crisis. In order to increase the income of the farmers there is dire need to adopt the income centric approach in preference to production. There is need to facilitate the farmers so that they can operate their farm enterprises on the basis of profitable returns. Promotion of agriculture as a true self- enterprise will have to define by the sustainability of resources. Sustainability refers to appropriate use of natural resources, environmentally friendly technologies and protection of bio-diversity with a view to ensure the food and nutritional security of the increasing population. There is need to provide the equal opportunities for all categories of the farmers to grow and earn net family incomes more than they are presently earning.

Presently around 86 per cent of the total numbers of holdings in the country are under small and marginal farmers categories. The average size of holding in the country is around 1.15 ha. Agriculture comprises various sub-sectors such as field crops, horticulture, animal husbandry, sericulture, fisheries etc. and it is important to understand the composition of these sub-sectors and the growth potential of each of these. The Internal Rates of Returns are not uniform from all the sectors. It has also been observed that the livestock, fishing and aquaculture have more growth potential as compared to crops sector. Within the crops sub-sectors, horticulture sector has been registering more growth rates over the last decade. The share of horticultural output as a percentage of agriculture now constitutes 30 per cent. It is obvious that horticulture, livestock and fisheries have great potential and need special emphasis. Also the efforts are needed to increase the yields of field crops. Road, markets, irrigation, godowns, cold storage infrastructures, knowledge creation through technical development and so on are necessary for the agricultural growth in the country. For instance, improving of road infrastructure leads to reduction in the cost of transportation and thereby the marketing costs can be reduced. The investments by public and private sectors can play a critical role for the agricultural growth in India. Farmers' suicides are an avoidable issue if appropriate and timely interventions are made in agriculture sectors. The policies and programmes of the government should be designed in such a way so that farmers can be facilitated at every stage of crops production and post-production chain. By the Soil Health Card Scheme, the farmer can learn the nutrient and physicochemical status of the soil and thus can decide the nature and quantum of fertilizers and amendments in soil. Such techniques can reduce the cost of cultivation. By e-National Agriculture Market (eNAM) information farmer can decide whether to sell the farm produce or to postpone for the time being. The Comprehensive Crop Insurance Scheme entitled as Pardhan Mantri Fasal Bima Yojana aims to insure the farmers' crops at the low premium rates.PM-KISAN is proving as a boon to the farmers. The interventions on food processing, supply chain and value chain management can help the farmers to realize their great monetary returns from their farm produce.

Various central and state agricultural schemes and programmes can also be helpful increase the income of the farmers. There is need for the effective review and monitoring mechanism of all the activities at the field level supported by the appropriate Information and Communication Technology (ICT). Also there is crying need to develop climate resilient agriculture. All this can help to enhance the income of the farmers and also to sustain the crops production.

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