"We live in a wonderful world that is full of beauty, charm and adventure. There is no end to the adventures that we can have if only we seek them with our eyes open. -Jawaharlal Nehru"

PROTECT FORESTS

Forests are the lifeline of our planet and the most vital habitat for wildlife. They are not merely collections of trees but complex living ecosystems that support countless species of animals, birds, insects, and plants. Protecting forests is therefore inseparable from protecting wildlife. In an age marked by rapid development, climate change, and population pressure, the need to conserve forests has become more urgent than ever.

Wildlife depends on forests for food, shelter, breeding, and survival. From large mammals like tigers, elephants, and bears to birds, reptiles, and tiny insects, forests provide a balanced environment where each species plays a role in maintaining ecological harmony. When forests are destroyed or degraded, wildlife loses its natural home, leading to displacement, human-wildlife conflict, and even extinction of species. History has shown that once a species is lost, it can never be brought back.

Deforestation is one of the biggest threats to wildlife today. Large forest areas are cleared for agriculture, urban expansion, mining, roads, and industries. Illegal logging and forest fires further worsen the situation. As forests shrink, animals are forced to move closer to human settlements in search of food and shelter. This often results in crop damage, loss of human life, and retaliatory killing of animals. Such conflicts are not caused by wildlife, but by human interference in natural habitats.

Forests also play a crucial role in maintaining climate balance, which directly affects wildlife. They regulate temperature, control rainfall, prevent soil erosion, and act as carbon sinks by absorbing carbon dioxide. Climate change caused by deforestation alters weather patterns, dries up water sources, and disrupts breeding cycles of animals. Many species are unable to adapt quickly to these changes, pushing them closer to extinction. Protecting forests is therefore essential not only for wildlife but for the survival of humanity itself.

Conservation of forests requires collective responsibility. Governments must strictly enforce forest protection laws, curb illegal logging, and ensure that development projects do not destroy critical wildlife habitats. Establishing and maintaining protected areas such as national parks, wildlife sanctuaries, and biosphere reserves is essential. At the same time, conservation should not ignore the needs of local and indigenous communities who depend on forests for their livelihood. Sustainable development and community participation are key to long-term forest protection.

Public awareness plays a vital role in forest and wildlife conservation. People must understand that forests are not obstacles to progress but foundations of sustainable development. Educational institutions, media, and civil society organizations should actively promote environmental awareness. Simple actions like reducing paper waste, supporting afforestation drives, and reporting illegal forest activities can make a significant difference.

Youth have a special role to play in protecting forests for wildlife. As future leaders and decision-makers, young people must develop respect for nature and advocate for environmental protection. Tree plantation campaigns, eco-clubs, and wildlife conservation programs can instill a sense of responsibility and connection with nature. Protecting forests today ensures that future generations can witness the rich diversity of wildlife that our planet holds.

Hydroponic Farming-Growing Without Soil

■ **DR. BANARSI LAL**

Hydroponics is the buzzword now-a-day.Many people do not know much about the hydroponics. But the fact is that it is one of the most fastly growing agricultural industries across the globe. The word hydroponics has been derived from the two Greek words "hydro" and "ponos" means working with water. Simply hydroponics can be defined as an art or science of growing plants in water or in an inert growing medium that is enriched with all the necessary nutrients required for the optimum growth of plants. Hydroponic has been developed from the Latin America. In 1978 hydroponic pioneer Dr.Howard Resh published the book on Hydroponics Food Production. People across the globe are now thinking for hydroponics because of lack of fertile farm land and water. Home gardeners can grow the fresh organic vegetables in their balconies of their homes by using the hydroponics technique throughout the year. Plants focus more on growth and it produces more leaves, vegetables and fruits in hydroponic system as the plants get right nutrition, at right time, in right proportion. Many questions arise in the mind when we discuss on hydroponics as we grow the crops in the soilless culture under this system. When we grow plants in water, won't the root rot? This is totally a misconception. Generally plants rot in the stagnant water that is devoid of water.The oxygen present in the water is called as the dissolved oxygen. Roots do not rot in the hydroponics as the water is circulated in the system. In Hydroponics system plants get balanced water and nutrition and this system saves about 80 per cent of water. In hydroponics system, plants are grown without soil so there are least chances of insects-pests and diseases in the crop. The crop is uniformly grown as each plant gets equal nutrition and water. There is no need of crop rotation in the hydroponic system as the same crop can be grown repeatedly. Plants get high quality nutrition in this system so plants growth is more as compared to the open cultivation. Waste areas can be utilized for the hydroponics as the crops are grown in the soilless culture. Hydroponics makes the agriculture possible even in the impossible areas.

Hydroponics farming is spreading rapidly with new technologies and sustainability practices redefining modern agriculture.As the problems such as climate change,water scarcity and food security challenges are increasing, hydrponics technology offers a viable resource-efficient alternate to traditional farming.Hydroponics technology is expected to become smarter,more scalable and highly sustainable.Now-a-days Artificial Intelligence is playing significant significance in optimizing real-time data,predicting crop health and automating farm management.AI-Powered tools enable farmers to tune nutrient levels,pH and light exposure ansuring maximum yield and minimal efforts.The Internet of Things(IoT) is making hydroponic farming more efficient and responsive by enabling real-time monitoring and automation.Sensors placed in hydrponics systems track key parameters such as water quality,nutrients levels and temperature allowing farmers to manage their farms remotedly.In hydroponics we can reduce water and energy waste through optimized automation.As sustainability becomes periority,hydropoincs farms are increasingly adopting renewable energy sources to power their operations.Solar panels,wind turbines and biogas systems are being integrated into hydroponic farms.

With urbanisation on the rise,urban areas are embaracing hydroponics vertical farm to produce fresh organic food locally.In 1950 the total population of world was 2.6 billion with 800 million in urban centres and 1.8 billion in rural areas. After 100 years e.i. by 2050 we expect 9.2 billion inhabitants with 6.3 billion living in urban areas and only 2.9 billion remaining in the countryside. There is dire need to concentrate on urban environment and food security for the growing population especially in urban areas. Urban agriculture is coming in limelight in the recent years. This has been felt because of (1) Physical and psychological in- and out-door relaxation for urban people (2) For improving the urban areas environment and (3) For food, income security and provide the fresh vegetables round the year for urban dwellers. Hydroponic technique can mitigate all these problems. Hydroponics technique reduces the water needs and cultivation space for plants growth, produces organic vegetables and helps to check the environmental contamination. Now many people are coming forward for urban hydroponics for physical and psychological in and out door relaxation. In arid climate it can increase humidity and lower the temperature. It further can help to reduce the discharge of net CO2 because plants use CO2 for photosynthesis. Hydroponic gardens are raised vertically as there is less space in the urban areas. Hydroponics can help to clean and green the urban areas and thus offer green zones for micro-climate changes. Thus, urban areas dwellers can enjoy such green areas, enhancing the community self-esteem and stimulating community livelihood. Green cities are always demanded by the people and hydroponics can play a pivotal role in greening the cities. Keeping the climate change and food security in view urban agriculture needs the highest attention. Urbanisation needs to be connected with the innovative techniques in agriculture. Urban agriculture can help to produce the food for the city dwellers by utilizing the empty lots, along roadsides, on rooftops and by vertical farming. If done properly it can improve the environment of urban areas thus making urban areas good places to live in. Hydroponics can prove an innovation especially in the urban areas and provides a far more sustainable and appropriate solution. There are different hydroponics systems, for the large scale they are quite sophisticated, capital intensive and require high technical knowledge. Simple hydroponics can be utilized by the low-resource poor urban population living under poverty. By using the hydroponics technique city dwellers can produce the fresh organic vegetables within a short period and this can help to keep them fit. Many countries have introduced hydroponics technique in their urban and semi-urban areas for quality vegetables production.

In order to grow the hydroponics one needs to have the hydroponics system. There are two types of hydroponics system. One is water based system in which the plants are grown in the water as the medium and soilless system in which the plants are grown in an inert substrate such as the perlite, coco coir, gravel etc. Nutrient Film Technique (NFT) is a very popular system that belongs to the hydroculture category of growing plants. In this system plants are grown in the channel usually made of plastic that allows nutrients solution to flow through it. The oxygen is not depleted in the system and nutrition solution is always flown in the system. This system is very effective to grow the leafy vegetables and herbs. Many firms provide readymade kits and nutrient solution for large scale farming under hydroponics. Deep Water Culture is another important growing system in which a shallow pond or pool is used to float lightweight thermocol or polystyrene in which the holes are drilled. These holes hold the net cups along with the plants. This method of farming is very simple and efficient in space usage. In this system inert substrate is used in place of soil as a growing medium of plants. The substrate contains the water, nutrition and it provides the support to the plants. The water is given either manually as in case of hobby or by automated drip irrigation in case of commercial level of hydroponic system. Leafy green vegetables, salads and herbs can be grown by this system of hydroponics. The cost of the hydroponic unit depends on the choice of the system and type of green house. It ranges between Rs.75, 000 to 1.2 crore. Many firms provide the end-to-end solution, farm design, installations and farm operations. Many agricultural universities have established the demonstrations units of hyderoponics across the nation

In hydroponics there is no problem of weeds. Diseases and insects-pests are also minimized by using the hydroponic technique. Hydroponics plants are healthier with more vigour. Plants under hydroponics technique grow faster and yield an earlier harvest. Hydroponics technique require less space and roots need not to be spread. Water can be reused in hydroponics and thus water can be saved. Hydroponics farming is increasing across the globe and people are showing keen interest in this innovative technology. Commercial level of leafy crops such as spinach, lettuce, Swiss chard, mint, thyme etc. can be grown under hydroponics. Tomatoes, capsicum, cucumber, strawberry etc. can also be grown through this system of farming. As this system of farming has gained momentum in India, we may see new changes in the hydroponics system in the future. The agricultural scientists are creating awareness and imparting trainings on hydroponics to the beginners. The hydroponics system can be very useful to produce the organic vegetables especially in the urban and semi-urban areas. KVK, Reasi has also established hydroponics unit at its campus and many people are showing keen interest in this innovative technique of farming.Hydrponics technology has been recognised as the sustainable solution to food security and environmental conservation.It is an efficient technology,giving new dimensions to farming,revolutionizing the conventional idealogy of agriculture.

(The writer is Chief Scientist and Head of KVK Reasi)

The Antahkarna Journey: Cultivating Inner Peace and Wisdom

■ **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.

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.

May God guide our boats to find its shore and help us to distinguish between truth and deception. May the dawn of the New Year bring peace, joy, and enlightenment to all.

In 2025, India can finally enjoy the fruits of surplus Labour

From Independence through the late 20th century, India operated under a tightly regulated labour framework designed for a protected economy. Even after liberalisation, this was one field left untouched. Its consequence was stark: in a labour-surplus country, firms avoided labour-intensive investment.

That imbalance of labour law restricting labour absorption finally was corrected in 2025. Labour reforms and VB-G RAM G finally makes it possible for India to absorb our surplus labour in our formal economy in both urban and rural India. Labour law, social security, rural employment and enterprise policy are aligned for the first time, moving India towards a system that protects workers while enabling formal employment and scale.

Learning from Other Labour-Surplus Economies

Let's start with countries that faced the same challenge as India: a surplus of labour. In the 1990s and early 2000s, China, Vietnam and Indonesia designed labour laws to absorb workers into large-scale manufacturing by making hiring predictable and compliance manageable.

India moved the other way, building a maze of permissions and penalties that discouraged labour-intensive investment and pushed firms towards informality.

That path now reverses, in both urban and rural labour markets. By consolidating 29 labour laws into four labour codes, India has simplified compliance more than its peers, matched them on worker protections, and gone further on hiring flexibility.

In rural areas, the shift from MGNREGA to the Viksit Bharat-Rozgar and Ajeevika Mission (Gramin) aligns employment with productivity, introduces a 60-day pause during peak sowing and harvesting to prevent farm-labour shortages, and links work to durable assets. The result is a labour regime that is more investment-ready than China, Vietnam or Indonesia, combining ease of compliance, broad social security and scalable hiring, without weakening safeguards, across both factory floors and farmlands.

PARAMETER	EARLIER REGIME:	NEW LABOUR CODES
NUMBER OF LAWS / CODES	29 Laws	4 Codes
RULES	1,436	351
RETURNS	31	Single (Electronic)
FORMS	181	73
REGISTERS	84	8
REGISTRATIONS	8*	Single
LICENCES	4	Single
COMPOUNDING OF OFFENCES	Not available	Introduced for the first time
IMPROVEMENT NOTICE	Not available	Introduced for the first time

Labour reform: from fragmentation to function

Consider a small manufacturing unit with around 100 workers. For years, growth came with anxiety. Hiring a few more hands meant navigating a maze of labour laws, filing multiple registrations, maintaining thick registers, responding to inspections from different authorities, and facing the risk that even a minor procedural lapse could invite criminal liability. Many businesses made the same calculation: it was safer to remain small, informal, and understaffed than to scale.

That mindset begins to change in 2025. By consolidating 29 central labour laws into four Labour Codes, the system moves away from regulatory clutter towards clarity. Compliance is simplified through single registrations, licences and returns; inspections shift from fault-finding to facilitation; and routine errors no longer attract criminal consequences.

Crucially, simplification does not come at the cost of worker rights. Wage protections are universal, gender equality is built into law, social security extends to gig and platform workers, and migrant labour gains portability. Formal hiring no longer feels like a risk to be managed, but a step that can be taken with confidence, making growth, protection and scale possible together.

Enabling enterprises to grow and hire

For years, growth itself carried a penalty. Consider a manufacturing firm approaching scale: once it crossed Rs 4 crore in paid-up capital, it lost small-company status and was pushed into heavier compliance just when it needed to hire more workers, such as mandatory cash-flow statements, additional board and audit requirements, and more detailed annual filings with the Registrar of Companies. Many businesses responded by capping size, splitting operations or staying informal.

That equation changes in 2025. Firms can now grow up to Rs10 crore in paid-up capital while remaining small companies, while MSME investment limits rise 2.5 times and turnover limits 2 times. Growth no longer triggers a compliance shock; it creates room to formalise, scale and hire, making enterprise-led job creation a rational choice rather than a regulatory risk.

For years, labour laws discouraged formal hiring, as employers avoided enrolling workers in the provident fund due to the risk of retrospective liability, backdated dues, and steep penal damages even for defaults linked to a worker's previous employer.

This uncertainty made formal employment risky, while rigid withdrawal rules left workers unable to access their savings during distress. That changed in 2025, when the Employees' Provident Fund Organisation allowed a one-time enrolment of previously excluded workers without past penalties and simplified withdrawals. With eligibility standardised at 12 months and up to 75% of the corpus now accessible, the reforms lowered hiring risk and accelerated formalisation..

Rural employment: updating a 2005 framework for a 2047 economy

The second major labour reform of 2025 made opposition breathing in fury for all wrong reasons. Nobody argued against the fact that MGNREGA helped raise rural incomes, but its also plain as day that it did not create durable assets and failed to keep pace with a rapidly changing rural economy.

When the scheme was introduced in 2005, over 2 in 5 rural Indians lived below the poverty line; today, fewer than 2 in 50 do-a tenfold decline. Meanwhile, MGNREGA works scheduled during peak sowing and harvesting have created artificial labour shortages and raised farmers' costs. These shifts made reform unavoidable.

Against this backdrop, the Viksit Bharat-Guarantee for Rozgar and Ajeevika Mission (Gramin) Act, 2025 represents a decisive reset. While raising the statutory guarantee is raised to 125 days, the new law has given a 60-day pause during sowing and harvesting seasons ensuring farmers have access to labour. It also focuses on 4 verticals such as Water security, Core-rural infrastructure, Livelihood- related infrastructure and disaster mitigation ensuring that durable rural assets are actually created. All assets created are aggregated into the Viksit Bharat National Rural Infrastructure Stack, ensuring a unified, coordinated national development strategy.

For the first time since Independence, India's labour policy stops managing the past and starts enabling the future, treating labour not as a problem to be controlled, but as a partner in growth, dignity and national transformation.