"The fabled musk deer searches the world over for the source of the scent which comes from itself."
-Ramakrishna

PRESERVE INDIAN HERITAGE

Before being proud of the heritage, we have to understand what is the heritage of India after all? Here we are not talking about 100-200 years of history. The topic is important and the purpose of this resolution of Prime Minister Modi is to understand the point which provides us the energy to leap towards the future as well as inspires us to stay connected to our history or should we say, our roots. Indian heritage dates back many centuries.

It is vast, authentic, and still alive with us today. We should not forget that India gave the knowledge of zero to the world. Talking about medicine, all the codes of sage Sushruta and Charak are the contribution of India. On the front of study and teaching, Takshashila and Nalanda were the centers of knowledge established in India itself. There are many such examples available before us which make us feel proud of Indian heritage.

Today, when India is moving towards becoming a superpower, we will definitely have to pay special attention to cherish and preserve our heritage, due to which we have reached this position today. It is true that the period of hundreds of years of slavery had given many deep wounds to the conscience of India and the feelings of Indians, despite this, the non-diminishment of our will, passion and enthusiasm is the result of the same legacy, on the basis of which India's personality remains strong till today. India is now moving towards the future with new consciousness, new enthusiasm and new faith while preserving its past.

Kangri- The darling of every Kashmiri

■ **OMKAR DATTATRAY**

It is said and rightly so that necessity is the mother of invention and some foresighted man in the ancient past may had invented Kangri .It has become a darling of every Kashmiri in winter and it warms and protects him /her from the severe cold .Kangri gives warmth ,during calm, cloudy and cold days of winter called Wandah and Shishur seasons in Kashmir .The Kangri has a special importance for ruralites as well as urban people .The farmer takes Kangri round the year in fields and use huka with the help of Kangri embers .A puff of huka provides respite to the farmer from the hard work .A city walla ,makes use of kangri in his kitchen and home .Kangri consists of two parts ,one earthen pot called in kashmiri as 'kundal and its wicker cover of various ordinary and beautiful designs and colors .Kangri is portable and is carried to any place .Kangris are manufactured everywhere in Kashmir but the kangris of Bandipore and kulgam are very special and beautiful .It is generally believed that Kashmiris learnt the use of Kangri from the Italians who were in the retinue of Mogul kings and visited Kashmir in summers .Kashmiri people burn Kangri on the occasion of local festival ,marking the end of winter season .Isband-Peganum harmala ,aromatic seeds believed to push away the negative energies are burnt in Kangri to mark a good beginning to a party .Beyond Kashmir ,people of Himachal ,Uttrakand and some parts in Nepal also make use of kangri .In 2015 a shopkeeper in Srinagar commissioned a Kangri ,described as the world's largest to attract customers to his textile shop .Kashmir Life reported that the size ,over a metre long posed technical challenge to the wicker weavers .The Kashmiri proverb ,"What Laila was on Majnuns bosom"(legendry lovers),so is the kangri to a kashmiri ,sums up the relationship between a Kashmiri and the Kanger and it has got much cultural importance .The tourism department of occupied Jammu and Kashmir decided to celebrate Pheran and Kangri day on Feb19 to promote Kashmirri culture. Our part of Jammu and Kashmir should take a qeu from POJK and decide to celebrate a kangri and pheran day to promote kashmiri culture .Weaving of Kangri is local cottage industry and the kangris of "Charar-e-Shrief are very famous for their special design and look .Similarly the kangris of Baramullah ,Bandipore and kulgam are also famous and attract large customers .Many people earn their livelihood from the avocation of weaving Kangris. These special; kangris are purchased for the purpose of presenting as a gift to dear ones and on special occasions .A special Kangri called wuda Kangri designed in a beautiful frame are used to burn essence during marriage ceremonies by KP's and Kashmiri Muslims as both share same culture and tradition. A special kind of Charcoal (Tapantsini) made up of chinar ,willow ,apple ,popular and kiker twinges are used in Kangri .These twinges are set on fire and are not allowed to turn into ashes and for this purpose sometimes water is sprinkled on them .In the Kangri charcoal is lighted by burning some substance and charcoal burns very slowly and steadily leaving little ashes which are used as maneuvers in kitchen garden .The markets of Srinagar and other towns are flooded with Kangris from November to March and people purchase kangris for their use in winter. Some people earn their livelihood from weaving Kangris and the government is also providing loans under Khadi and Village industries schemes for the manufacture of Kangris. It is surprising that Kashmiris in their migration have carried the Kangri with them and they make its use in Jammu and other parts of the country during the winter season .Although Gas heaters are used by the people in cities and towns but it is impossible to say goodbye to kangri .The Kangri still remains to be the culture of Kashmir and Kashmiris .In winter Kashmiris take Kangri with them under the Pheran which protects them from the biting winter and intense cold .During the cold winter when snowflakes cover the ground area of the compound ,Kashmiris are delighted to taste Namkeen tea enjoying the warmth of Kangri under Pheran.

Kangri is a part and parcel of Kashmiri culture as well as a necessity in Kashmir in harsh winter .We can hardly live in intense cold in winter season without a Kangri .Both Kaehmiri Pandits and Kashmiri Muslims use Kangri in various functions including marriage ceremonies as both the communities burn Isband in Kangri .Kashmiri Pandits use Kangri at a function called Shishur Gundun to the new bride and at this function specially made Kangri decorated is kept before bride and the near and dear ones offer money in the empty Kangri .A kanger also known as Kangri or Kangid or Kangir is an earthen pot woven around with wicker filled with hot embers used by Kashmiris beneath their traditional clothing called Pheran to keep chill at bay which is also regarded as a work of art .It is normally kept inside the Pheran ,the Kashmiri cloak or inside a blanket or Chadder .If a person is wearing a jacket ,it may be used as a hand warmer .Kangir comes in different varieties, small for children and large for the adults .After the earthen pots are moulded and fired ,the artisans complete the wickerwork around it by erecting two arms to handle the pot ,propping back with strong wicker sticks ,and color it (optionally) to give an aesthetically delicate shape .The final product then goes to the market .In short Kangri is the best companion of Kashmiris and in fact can be said to be the darling of every kashmiri in harsh winters .Let us preserve Kangri and our beautiful culture for future generations .It is very difficult rather impossible to say goodbye to Kangri in winter.

Information Technology for Agricultural Development

■ **DR. BANARSI LAL**

The role of Information Technology (IT) to develop agricultural research, extension and education to improve the quality of life of the farmers is well established. This sector can help the farmers to get the relevant information such as agro-inputs, crop production technologies, market support, agro-processing, agro-finance etc. The agricultural extension mechanism is becoming dependent on IT sector to provide the appropriate technologies to the farmers. Present era is an era of information and communication technology (ICT). It is more interactive and can render information as per the need of ultimate users and ensures the possibility for quick information gathering, processing, transmission, preservation and sharing for social, economical and cultural upliftment. The growth of technologies in the field of communication leads to global spread of knowledge and application which leaves multi-dimensional impact on all spheres of human activity by accelerating the process of information exchange and reducing the cost involved in achieving the ultimate objectives at farmers field. The information and communication technology can render technical services in agriculture and allied sectors, weather information, market information, global information regarding agriculture, state and central agricultural schemes formed for the welfare of the farmers. In the country like India, the use of information and communication technology is in an ascent stage to help the farmers in taking right decisions at right time to carry out their farm operations. The effectiveness of any organisation depends upon several factors, out of which effective communication is one of the most important. Presently the dissemination of the agricultural information is mostly depending on information and communication technologies.

In India many problems like inadequate infrastructure are barrier in initiating information and communication technologies in agriculture and other allied sectors. Mostly the farmers in our country are small and marginal and their economic standard is not so strong to afford the cost of information technologies. Inaccessibility of farmers to information and communication technologies will polarize the knowledge of global society. The information and communication technologies like Voice Over Internet Protocol (VOIP) and Wireless in Local-Loop (WLL) are cheaper sources of information infrastructure and this can be a milestone in improving accessibility to new technologies. Now the internet has started to dispatch its services to the farmers through its network, knowledge services and this will help to flow many kinds of agriculture and allied sectors produces from villages to long distances. Internet is emerging as potential tool to access global information and enabling two way communication. In order to exploit the potentiality of Internet, Food and Agriculture Organisation (FAO) has formulated Virtual Extension and Research Communication Network (VERCON) to establish within human and institutional elements of agricultural and allied sectors research and extension. Videoconferencing is very helpful for the farmers of far-flung areas to interact with researchers, administrators and policy makers.

In order to provide information and communication technologies in the rural areas, several projects have been implemented on pilot basis. The village knowledge centre run by M.S.Swaminathan Research Foundation (MSSRF) in Pudducherry represented an experiment in providing information and knowledge resources to total community on various subjects of education, agriculture, animal husbandry and banking. This project used wireless radio for data and analog voice transmission between semi-urban hub centre and eight village centres. Information and communication technologies have a remarkable impact on agricultural and allied sectors. In order to enlarge the use of technologies for the rural people we need to design products, services and technologies that can solve the farming related problems and ameliorate local social-economic conditions. The lack of focus on rural areas communication, inefficient market for agricultural products, inability of government in dealing with the natural resources, management to integrate new technology into their operation and badly structure approach towards economic reform in information technology sectors are some of the constraints in transfer of technology to the farmers' fields. The potentiality of information technology is extensive and needs to be exploited for more personalised services in agriculture and allied sectors. The access of information and communication technologies to the farming community should be increased by reducing the cost of cultivation. Information and communication technologies are helpful to (i) Increase the awareness and knowledge of farmers about the new technologies in agriculture and allied sectors.(ii) Increase awareness about the government programmes and policies.(iii)Increase the agricultural productivity of the farmers.(iv)Increase price realization of farm produce at village level.(v)Improvement in agricultural extension.(vi)Enable community based organisation to promote income generating activities. Many farmers have developed their own new package and practices and they are proved useful in increasing the agricultural productivity. Most of these technologies remain in local use and are not disseminated globally. The use of information and communication technologies based measures like video and audio CDs can facilitate the accessibility of these innovations to the farmers who can not read. Information and communication technologies have largely been understood as the new kind of media and communication development infrastructure which helps in the dissemination of information across distance. The information and communication technologies infrastructure can improve the cost and quality of extension services as the present extension system is severely affected by limited efficient manpower. Competitiveness in the Indian agriculture and allied sectors can trigger higher productivity, higher income and risk management by inducing effective information technology. In order to find out ways for suitable information technology in agriculture, our research organisations need to set some village knowledge centres. Whenever a new sound technology is developed, it should be supplied to village knowledge centre from where it can be used by the farmers. Significant results of agricultural technologies should be shown to the farmers using new communication technologies like multimedia, video-conferencing and internet in their villages to create awareness.

(The writer is Sr. Scientist & Head, KVK Reasi).

Beginning of Human Life on Earth: Conceptional Dimensions

■ **DR. RAJKUMAR SINGH**

The beginning of life on Earth is a fascinating and complex area which spans several scientific disciplines including biology, chemistry, and geology. The current understanding of how life began is based on a mix of scientific theories and evidence from various fields. The key points about the origin of life on Earth include:a. Age of the Earth: The Earth is estimated to be about 4.54 billion years old, based on radiometric age dating of meteorite material and lunar samples.b. Conditions on Early Earth: The early Earth had a very different environment compared to today. It had a hostile atmosphere, intense volcanic activity, and was bombarded by comets and asteroids. These conditions are thought to have been crucial for the origin of life.c. Primordial Soup Theory: Proposed by Alexander Oparin and J.B.S. Haldane in the 1920s, this theory suggests that life began in a "primordial soup" of organic compounds in the Earth's early oceans. These compounds could have been synthesized from gases like methane, ammonia, and hydrogen, and energized by lightning or ultraviolet light.d. Miller-Urey Experiment: In 1952, Stanley Miller and Harold Urey conducted an experiment that simulated the conditions of early Earth. They demonstrated that organic compounds, including amino acids (the building blocks of proteins), could be synthesized from inorganic precursors under these conditions.e. RNA World Hypothesis: This theory suggests that the first self-replicating systems may have been RNA-based. RNA is capable of storing genetic information like DNA, and can also catalyze chemical reactions, making it a plausible candidate for the first genetic material.f. Panspermia Hypothesis: This hypothesis proposes that life did not originate on Earth but was brought here from elsewhere in the universe, possibly by meteorites. While intriguing, there is currently no conclusive evidence to support this theory.g. Fossil Evidence: However, the oldest known fossils are about 3.5 billion years old and represent bacteria-like organisms. These fossils indicate that life must have begun on Earth even earlier.h. Continued Research: The origin of life remains one of the biggest questions in science. Ongoing research in fields like astrobiology, geology, and chemistry continues to shed light on this complex and intriguing subject.The origin of life combines elements of Earth's early history, chemical experiments, and the study of ancient biological remnants.

Perspectives of human life

The concept of the "first man and woman" on Earth is often approached from two different perspectives: the scientific perspective based on evolutionary biology and the various cultural and religious narratives.Scientific Perspectivea. Evolutionary Process: According to evolutionary biology, there were no first "man" and "woman" in the way we might traditionally think of them. Humans evolved from a common ancestor shared with other primates over millions of years. b. Homo Sapiens: Modern humans, Homo sapiens, evolved approximately 300,000 years ago in Africa. This evolution was a gradual process involving many intermediate species rather than a single "first" individual or pair. c. Genetic Ancestry: In genetics, the concept of "Mitochondrial Eve" and "Y-chromosomal Adam" refers to the most recent common matrilineal and patrilineal ancestors of all living humans. However, these were not the only woman and man living at their respective times, nor were they a couple in the conventional sense. d. No Isolated First Individuals: These early humans were part of a population, and the changes that led to modern humans occurred across thousands of generations and within a large and diverse genetic pool, not in a single pair of individuals.Cultural and Religious Narratives a. Mythological Accounts: Many cultures have mythological stories about the first humans. These stories often serve symbolic or moral purposes and are not meant to be historical accounts. b. Adam and Eve: In Judeo-Christian tradition, Adam and Eve are often referenced as the first man and woman. This narrative is a religious and symbolic one, forming a foundational part of these religious traditions. c. Variety in Narratives: Different cultures around the world have various other creation myths involving first humans, each reflecting their own spiritual and moral beliefs.In conclusion, from a scientific standpoint, the idea of a first man and woman as singular individuals is not supported by evidence; humans evolved gradually over a long period.

The earliest life on earth

The earliest life on Earth, which dates back to about 3.5 billion years ago, was markedly different from the complex, multicellular organisms we are familiar with today. The features of ancient life forms is a subject of ongoing scientific research and debate, but there are several key characteristics that are generally agreed upon which include: a. Microbial Life: The earliest life forms were microscopic organisms. They were much simpler than most of the life we see today. b. Single-Celled Organisms: These early life forms were single-celled, similar to modern bacteria and archaea. Multi-cellular life did not appear until much later in Earth's history. c. Prokaryotic Cells: The cells of these early organisms were prokaryotic, meaning they lacked a nucleus and other membrane-bound organelles found in the eukaryotic cells of more advanced life forms. d. Anaerobic Metabolism: The earliest organisms likely did not require oxygen for survival. They may have relied on anaerobic metabolism, as oxygen was scarce in the Earth's early atmosphere. e. Extremophiles: Some of these early organisms may have been extremophiles, capable of surviving in harsh environments, such as high temperatures, high acidity, or high salinity. This ability suggests life could have originated in extreme environments like deep-sea hydrothermal vents. f. Autotrophic and Heterotrophic: Early life forms included both autotrophs, which could produce their own energy and nutrients (likely through chemosynthesis rather than photosynthesis), and heterotrophs, which obtained energy by consuming organic compounds in their environment. g. RNA World Hypothesis: It's theorized that RNA (ribonucleic acid) played a crucial role in the earliest forms of life. RNA is capable of both storing genetic information and catalysing chemical reactions, which could have been critical before the evolution of DNA and proteins. h. Simple Biochemical Processes: The biochemical processes of these organisms we likely much simpler than those of modern life. They may have had a limited ability to regulate their internal environments and were probably more directly influenced by their external surroundings.i. Fossil Evidence: The earliest evidence for life comes from stromatolites and microfossils. Stromatolites are layered structures formed by the growth of microbial mats, and microfossils are microscopic remains of individual cells. j. Adaptation to Earth's Early Environment: These early life forms had to be robust and adaptable to survive in the varying and often harsh conditions of early Earth, including intense UV radiation, volcanic activity, and a lack of oxygen.The study of the earliest life on Earth is constantly evolving with new discoveries and technological advancements in fields like paleobiology, geology, and molecular biology, providing a deeper understanding of how life originated and evolved on our planet.

(The author is a youth motivator).

China's Global Times acknowledges India's economic progress and improved international relations under PM Modi's leadership

In a rare commendation, Global Times, a prominent Beijing based Chinese media outlet, has published an article praising India's significant strides in economic development, social governance, and foreign policy under the leadership of Prime Minister Narendra Modi. The article, penned by Zhang Jiadong, the Director of the Center for South Asian Studies at Fudan University, Shanghai, highlights India's remarkable achievements over the past four years. It acknowledges India's robust economic growth, improvements in urban governance, and a shift in attitude towards international relations, notably with China. "For example, when discussing the trade imbalance between China and India, Indian representatives earlier used to primarily focus on China's measures to reduce the trade imbalance. But now they are placing more emphasis on India's export potential", writes the author.

The article notably commends India's proactive approach in fostering a "Bharat narrative,"emphasizing the nation's strategic confidence. The author says with its rapid economic and social development, India has become more strategically confident and more proactive in creating and developing a 'Bharat narrative'. "In the political and cultural spheres, India has moved from emphasizing its democratic consensus with the West to highlighting the 'Indian feature' of democratic politics. Currently, there is even more emphasis on the Indian origins of democratic politics" he adds This shift, the author asserts, reflects India's ambition to escape its historical colonial shadow and position itself as a global influencer, politically and culturally. Furthermore, the article lauds India's foreign policy strategy under Prime Minister Modi, highlighting the nation's multi-alignment approach and bolstering ties with major global powers like the US, Japan, and Russia while displaying a nuanced stance in the Russia-Ukraine conflict.

The article notes that India's strategic thinking in foreign policy has undergone another change and is clearly moving toward a great power strategy. "Since Prime Minister Narendra Modi assumed power, he has advocated for a multi-alignment strategy, promoting India's relations with the US, Japan, Russia and other countries and regional organizations" says Professor Zhang.

The article notesthat India has always considered itself a world power. However, it has only been less than 10 years since India shifted from multi-balancing to multi-alignment, and now it is rapidly transforming toward a strategy of becoming a pole in the multipolar world. In conclusion, the author says "It appears that a transformed, stronger, and more assertive India has become a new geopolitical factor that many countries need to consider."

This rare acknowledgement of India's advancements and Prime Minister Modi's strategic vision by Global Times signifies the growing recognition of India's burgeoning global influence and the implications of its assertive posture on the international landscape.

Courtesy Global Times

Performance of Indian Scientists in 2023

■ **VIJAY GARG**

The year 2023 saw india emerging as a global leader in Science and Technology. A rejuvenation could be felt in every field of science and technology, from agriculture to space research. This rejuvenation is mainly due to various activities taken by the government during the last decade. Nature's 10, a compilation of ten people they believe have had a major impact on science, published by the prestigious scientific journal Nature, has selected our Kalpana Kalahasti, who played a crucial part in ensuring Chandrayaan-3's triumphant touchdown. India has jumped to the third position in the global ranking in scientific publications and the number of patents filed.The government's Digital India initiative has significantly increased internet penetration, making India the world's second-largest internet market. The rapid evolution of computing technologies since the latter half of the 20th century has brought about transformative changes in every facet of our lives. The government of India, recognizing the significance of quantum computing, approved a substantial funding package of US$730 million for the National Quantum Mission (NQM) in April of last year.The year 2023 has been a turning point in Indian space science as we gained a top position in the space race along with other developed countries.

India's lunar lander reaches the dark side of the moon. Indian scientists achieved something unprecedented with their Chandrayaan-3 moon lander, marking the first successful mission to reach the unexplored lunar south pole, believed to harbour frozen water reservoirs. Launched in July 2023, the success of Chandrayaan-3 not only underscored India's significant role in space exploration but also demonstrated that a moon lander could be deployed successfully at an economic cost of $75 million (£60 million). India sent Aditya-L1, its first mission to study the Sun, into space just a few days after landing on the Moon. The rocket that lifted off on September 2 is now 1.5 million km (932,000 miles) away from Earth. It should arrive at its target L1 or Lagrange point 1 of the Sun-Earth system on January 6, 2024, enabling the spacecraft to view the Sun without any eclipses.The Indian Space Research Organisation (ISRO) also completed the first in a series of test flights for its proposed manner mission Gaganyaan, on October 21, 2023. The mission will put India on the small and exclusive list of countries that can launch a crewed spacecraft by itself-Gaganyaan. ISRO has more ambitious plans, as the Hon.Prime Minster Narendra Modi envisioned, to put an Indian space station in orbit by 2035 and take an Indian astronaut to the Moon in 2040. In the Union Budget for 2023-2024, the Centre has earmarked Rs 600 crore for the 'Samudrayaan' Deep Ocean Mission, which is aimed at exploring marine biodiversity for the sustainable utilization of resources. A significant component of this mission involves India's inaugural expedition to a depth of 6,000 meters using the domestically developed submersible 'Matsya6000,' crewed by a team of three. India has positioned itself as a frontrunner in the renewable energy sector, securing the fourth rank in installed capacity for renewable, wind, and solar power. On January 4, 2023, the Union Cabinet, led by PM Modi, approved the National Green Hydrogen Mission. Even after doing focused research, we were at a loss in controlling environmental pollution and food adulteration, the pillars of human survival. Similarly, on solid waste management and plastic pollution, our scientists have failed to come out with any concrete measures to tackle it. Unfortunately, the focus on these areas has been very poor.

(The author is Retired Principal Educational columnist malout).