

CYBER SECURITY

In today's interconnected world, Cyber Security has become one of the most crucial aspects of technology. As digital platforms grow and become more integral to everyday life, the risks associated with cyber threats are also rising. Cyber security refers to the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks, theft, and damage. It is an essential field that protects individuals, organizations, and governments from the growing number of cyber threats.

The importance of cyber security cannot be overstated. With the vast amount of sensitive personal and organizational data stored online, any breach can lead to significant financial losses, identity theft, data leaks, and loss of reputation. Organizations such as banks, healthcare institutions, and e-commerce platforms, which store and process sensitive data, are prime targets for cybercriminals. The stakes are even higher for governments and critical infrastructure systems like energy, transportation, and communication, as cyber attacks on such systems can have disastrous consequences on national security.

Cyber threats come in many forms, and they evolve continuously. Some common types include malware, phishing, ransomware, denial of service (DoS) attacks, man-in-the-middle (MitM) attacks, and social engineering. Malware is a general term for malicious software, including viruses, worms, and Trojans, designed to harm systems or steal data. Phishing involves deceptive practices, often through email or fake websites, to trick individuals into providing sensitive information. Ransomware encrypts a victim's files and demands a ransom for their release. DoS attacks overwhelm a system with excessive traffic, rendering it inaccessible. MitM attacks allow attackers to intercept and alter communication between two parties, while social engineering manipulates individuals into breaking security protocols.

To defend against these evolving threats, several measures are employed at both the individual and organizational levels. Encryption is one of the most important security techniques, converting data into unreadable formats that can only be accessed by authorized users. Firewalls serve as a protective barrier between internal systems and external threats by monitoring and controlling incoming and outgoing network traffic. Antivirus software is another crucial tool that detects and removes malware before it can cause harm to a system. Multi-Factor Authentication (MFA) enhances security by requiring users to provide two or more verification factors before gaining access to an account. Regular software updates are vital for patching known vulnerabilities, while employee training helps prevent security breaches caused by human error, such as falling for phishing scams.

As technology continues to advance, the landscape of cyber security will become even more complex. The rise of Internet of Things (IoT) devices, artificial intelligence (AI), and 5G networks presents new opportunities for cybercriminals to exploit vulnerabilities. AI and machine learning technologies are being leveraged to develop smarter cyber security systems that can predict, detect, and respond to threats in real-time.

Governments are investing heavily in advanced cyber security measures and regulatory frameworks to counter these threats.

■ **OMKAR DATTATRAY**

Today, 5th January 2025 is the National Birds Day. Every year on 5th January India as well as the international community celebrates national bird Day. It is celebrated to raise awareness about the importance of birds to the ecosystem and to protect them from endangerment.

The Avian Welfare Coalition first observed National Bird Day in 2002 and since then it is observed and celebrated annually on 5th January.

The day aims to highlight the value of birds, and the threats they face from habitat destruction, climate change, and reduced food sources.

It also aims to establish a healthier relationship with birds and to show that they should not be kept as pets or caught for entertainment.

National Birds Day, which has American origin, has been celebrated annually on January 5 since its inaugural event in 2002.

This particular day was chosen because January 5 also happens to be the day of the yearly "Christmas Bird Count".

This yearly national holiday has been observed in the USA for quite some time. National Birds Day is observed on 5 January to raise awareness about birds that are captured or produced in captivity for monetary gain or pleasure. The day prompts reflection on the interconnectedness between humans and these awe-inspiring creatures, emphasizing the need for global unity in their conservation. It is celebrated also to make people aware about the value of tiny tweets in the ecosystem.

The Avian Welfare Coalition, which works hard to promote awareness for birds that are captured or produced in captivity for either financial gain or for human amusement, is behind this initiative. Due to their close resemblance to the evolution of dinosaurs, birds are regarded as living relics of the past. They are frequently keystone species in ecosystem and indicators of their health and vitality.

The Avian Welfare Coalition created National Bird Day in order to raise awareness of the struggles and plight of these significant animals as well as the ways in

National Birds Day



which we can start the change that is required to establish a healthier, more sustainable relationship with them.

The 850 bird species that live in the United States are among the many different bird species that are honored on National Bird Day. Yes, they all have a beak, two wings, and feathers. But after that, there are notable differences.

National Bird Day falls on the same day as three-Week -long Christmas Bird Count, the world's largest citizen science project that counts wild birds in the United States. Climate change, habitat loss, deforestation, and other factors that have a devastating impact on life are putting birds in danger.

These common crimes against birds are discussed and addressed in public on National Bird Day. People from America, India and other countries of the world participate in this event because raising awareness is one of its main purposes. A day when birds should be treated with utmost respect is indicated by this. We all have a chance on this day to spread the word about bird preservation and how to protect birds. The world's bird population totals over 9800 species.

An individual cannot possibly see every single one of them! But on National Bird Day, anyone with an interest in birds can use this occasion to get a glimpse of the various bird species that are found nearby. National Bird Day is an annual holiday with half a million adherents who celebrate through bird watching, studying birds, and other bird-related activities.

National Birds Day has been dedicated at least in part to raising awareness about birds that are held in captivity. Birds have

profound religious and mythological importance in India. Because of its profound religious and mythological connection in Indian traditions, the peafowl was proclaimed India's national bird in 1963, because the Hindu god Kartikeya rides on its back, this bird is revered by Hindus.

A brief note on Dolphin Declared National Aquatic Animal. The peacock was named the National Bird of India in 1963 because it is the most auspicious animal that embodies our country's fauna and has a long history of religious and legendary significance in Indian culture.

The peacock is a magnificent creature with its beauty and grace, and it embodies the national spirit whose colors are connected with Indian identity.

The National Birds Day is observed and celebrated to raise awareness about bird conservation and promote the appreciation of avian biodiversity.

The day also aims to prevent the extinction of bird species and highlight their importance in ecosystem. The National Birds Day can be celebrated in following ways-1-Read a book about birds, such as Sibley Guide to Birds or II for Hawk. 2-Read a novel that features birds, such as I know why the Caged Bird sings by Maya Angelou.3-Watch some birds. 4-Invite someone to join you in celebrating. 5-Post on social media using the hashtag National Bird Day.

The national bird of India is the Indian peacock -Pavo cristatus. Dr Salim Ali is known as the Birdman of India for his contributions to ornithology and bird conservation. Many bird species in India are threatened by habitat loss, pollution, and hunting.

Wetlands are home to many species of birds in India and are vital to sustaining the ecosystems that feed local bird populations. The day aims to raise awareness about the threats birds face, such as illegal trade, climate change, and habitat destruction. National Bird Day is celebrated because we have used birds for their feathers, as pets, and even as food.

In India, we also celebrate 12th November as National Bird Day as it is the birthday of Salim Ali the birdman of India.

The National Bird Day which is observed on 5th January every year reminds us of the need to protect birds and their habitats, and to raise awareness of the threats they face.

Bird adoption is a particularly important National Bird Day activity.

According to the newspaper Atlanta Journal -Constitution, many bird enthusiasts celebrate by adopting birds and by educating future bird owners about the special issues involved with taking care of birds, including their screaming, biting, constant cleanups, the need for daily interaction and a varied diet".

The Avian Welfare Coalitions National Bird Day campaign aims to improve the welfare of parrots and other birds by discouraging their purchase as pets, and encouraging the support of wild bird habitat conservation programs and captive bird rescue organizations and sanctuaries. In short we humans should play our role in conservation and protection of various birds and encourage awareness about their conservation.

Let us all take due care of birds and do nothing which results in threatening birds. Birds are an important part of the ecosystem and we should recognize and understand the necessity of wild life and other birds for human life. So we should treat birds with due care and caution. On the national bird day let us resolve to protect and conserve birds and this will lead to a befitting care for the birds and their rearing and upkeep as well as look after. We should learn to respect and in fact respect birds for their and our own good because after all there is interdependence between humans and birds.

(The author is a columnist, social, KP activist and freelancer)

ESG initiatives and the future perspectives in India

■ **PROF. K S CHANDRASEKAR**

As Jammu and Kashmir is now undergoing through a series of low temperatures which were not witnessed till now and the difficulty in the sustainability, the question of ESG becomes important. ESG stands for "Environmental, Social and Governance." ESG can be described as a set of practices (policies, procedures, metrics, etc.) that organisations implement to limit negative impact or enhance positive impact on the environment, society, and governance bodies. In recent years, investors have become more aware of the importance of ESG criteria in their investment decisions. As a result, many businesses have begun to integrate ESG into their operations and business strategies. ESG can be considered a subset of sustainability, which is defined by the UN World Commission on Environment and Development as 'meeting the needs of present generations without compromising the ability of future generations to meet their own needs'.

ESG framework helps identify, organise, analyse, prioritise and accordingly guide decisions on various business risks. These risks, if left unaddressed can prove costly to the functioning and sustenance of businesses. India's priorities for the 2023 New Delhi G20 Summit included "Accelerated, Inclusive & Resilient Growth," "Accelerating progress on SDGs," "Technological Transformation and Digital Public Infrastructure," and "Women led Development." If we consider Environmental

factors and SDGs, SDG 6 (Clean Water and Sanitation): ESG factors related to water management, pollution control, and conservation align with efforts to ensure access to clean water and sanitation for all. SDG 7 (Affordable and Clean Energy): ESG criteria focused on renewable energy adoption, energy efficiency, and carbon emissions reduction contribute to the goal of ensuring access to affordable, reliable, sustainable, and modern energy for all. SDG 13 (Climate Action): ESG factors related to climate risk assessment, greenhouse gas emissions reduction, and adaptation measures support efforts to combat climate change and its impacts.

In the case of social Factors and SDGs, SDG 1 (No Poverty) and SDG 10 (Reduced Inequalities): ESG factors related to fair wages, labor rights, and social inclusion contribute to poverty reduction and reducing inequalities within and among countries. SDG 3 (Good Health and Well-being) and SDG 4 (Quality Education): ESG considerations related to workplace health and safety, employee wellness, and access to education support goals for promoting health and education for all. SDG 5 (Gender Equality): ESG factors promoting diversity, gender parity, and inclusive workplace practices align with efforts to achieve gender equality and empower all women and girls.

In the case of governance factors and SDGs, SDG 16 (Peace, Justice, and Strong Institutions): ESG criteria emphasizing trans-

parency, ethical conduct, and anti-corruption measures contribute to building effective, accountable, and inclusive institutions at all levels. SDG 17 (Partnerships for the Goals): Strong governance practices, including stakeholder engagement, responsible business conduct, and sustainable investment, facilitate partnerships for achieving the SDGs and mobilizing resources for sustainable development. Post-COVID, all countries have deviated from 2030 SDG targets. India's priorities are those of reducing poverty and providing basic necessities to its citizens. Many sustainable development initiatives are technology and resource intensive, which is why something like SDG 13 is a collective responsibility. India wants to be ambitious, inclusive, decisive, and action-oriented in taking the green development and SDGs agenda forward," asserted Amitabh Kant, G20 Sherpa during the meeting in Kumarakom, Kerala. Jeffrey Sachs responded by stating, "The world should aim to have at least an incremental US\$ 1 trillion every year to finance sustainable development for the world's poorest and most vulnerable countries." Nina Fenton, EU stated, "There is so much more that needs to be done. The Covid-19 pandemic has caused significant declines in investments on the development front and the world should strive to respond with greater urgency."

To ensure an effective green transformation, following emerged as critical check points for the G20 to work on: Building coherence around eco-

nomical, social, and environmental goals through recognizing the commercial value of long-term investments in human and natural capital. Ensuring continuity in the G20's efforts to make energy accessible for the most vulnerable communities, pushing forward agricultural reforms, and building towards sustainable cities and lifestyles, in addition to promoting just transitions for green development. Recognize the opportunities for course correction while at the same time pushing for concerted efforts for adaptation to ensure resilience and equity. Accelerating climate and development finance flows to the developing world through increased collaboration among diverse stakeholders. Achievement of the SDGs would require substantial scaling up of investments in all forms of capital, making the banks fit for purpose, incentivising private sector participation, and pushing for an increased focus on debt and concessional finance for vulnerable countries. To ensure convergence of the global policy space and international finance, the prospects of economic growth and job creation from additional long-term investments must be highlighted to build a compelling political and economic case for sustainable and green transformations.

KPMG keeping in mind this G20 meet that, Climate conformity will get more stringent which will result in the rise of Sustainable Brands. This is an opportunity to begin switching gears on their business strategy in favour of the long term and integrating sustainability and social impact

into their brand promise. Sustainable impact will fundamentally define how consumers and brands see themselves and impact brand valuations. Digital Infrastructure and AI for Real-time ESG- Green and Digital Skills for scalable transformation. Built environment also accounts for 40% of global carbon emissions, over 30% of global final energy use and consumes nearly half of the world's natural resources. We need to urgently cut emissions from the built environment and change how we design and construct buildings to successfully respond to the climate crisis, nature loss and growing inequality. The unprecedented concrete jungles being built can cause more harm and this is where planned cities, townships which can provide more open spaces, vegetation can be of help.

Climate adaptation and resilience are crucial for businesses, as the risks posed by climate change are increasing, including disruptions in supply chains and infrastructure failures, workforce displacement, increased cost of inputs, and more. Businesses must act to safeguard the resilience of workforces, key supply chains, and the communities and natural ecosystems upon which they depend, building collective resilience and avoiding mal-adaptation. Climate is going to be a major concern over the years and soon will become unbearable. If we do not heed to the experts on the same, soon there will be issues and problems which cannot be controlled.

(The author is Vice Chancellor, Cluster University of Jammu)

BIRDS IN AGRICULTURE

■ **DR. PARVEEN KUMAR**

Nature's lovely creatures, birds represent incredible diversity and who bring beauty and pleasure in our lives with their melodious voices and attractive colours. It has been rightly said that these birds have cultural, artistic, philosophical, economical and ecological value. Their chirping and collective flight soaring high up in the sky fills our hearts' with joy. All across the world, that there are around 10,000-12,000 different species of birds with a total population of approximately 50 billion individual birds. In our country, there are 1377 species recorded as of 2023, of which 81 are endemic to the country and 212 species are globally threatened. They have a crucial role in preserving our ecosystem and as such all life on this planet. Birds control insect-pests, clean up waste and spread seeds. Around 5% of the plants human used for food or medicine are pollinated by birds. They have the power to unite nations. Different species of birds travel long distances covering nations and continents. This gives an opportunity to different nations to come together and take steps to help and protect these small creatures ultimately paving the way for global cooperation. Unfortunately, the status of birds all across the globe does not represent a rosy picture. The latest report of Bird Life entitled 'State of the World's Birds' published every four years comes out with various shocking

revelations. It states that nearly half of the birds' species in the world are now in decline. Only six percent have been increasing their population. Nearly three billion birds are estimated to have been lost since 1970 in North America alone and further 600 million have been lost in the European Union since 1980, an area five times smaller. Lucy Haskell, Scientific Officer for BirdLife and lead author of the report further writes that world has already lost over 160 species of birds in the last 500 years. Although historically most extinctions were on islands, yet what is worrying is the growing wave of extinctions in continents and that is driven by landscape-scale habitat loss. There are diverse factors for this decline in bird population. Human action is among the major factor for the decline. The increasing use of machinery and the intensive use of chemicals have emerged as the leading cause of threat impacting about 73 percent of threatened species. Unsustainable management of forests represents another significant threat. Over seven million hectares of forests are lost every year which is an area larger than the Republic of Ireland and this impacts nearly half of the world's threatened bird species. Species like Harpy Eagle which depend on large, old trees are affected particularly. The bird has recently been put into vulnerable category in IUCN Red List. Climate Change has also emerged as a threat to birds.

Reports reveal that increase in frequency of phenomenon like storms, wildfires and drought is having a substantial impact on them, affecting 34 per cent of threatened species. Because of the importance of birds, January 05 is celebrated as National Birds Day.

The Avian Welfare Coalition created this day to raise awareness for the birds that are captured or produced in captivity for either monetary benefits or for amusement purposes. National Birds Day celebrated on Jan. 05 is an occasion to acknowledge the crucial role birds play in our lives and at the same time also to highlight the ill treatment birds are subjected to. For petty gains and delight, birds are caught, imprisoned, kept in captivity or eaten. It is day to do away with the sufferings of birds by raising public attention. In United States of America, National Birds Day has been celebrated since 2002. The date has been chosen deliberately as it is the day for the yearly Christmas bird count. Americans hold hands together to acquire details regarding the quality and condition of birds in the USA. This year the day is celebrated with the theme, 'Right to Fight'. The theme signifies the flight of a bird that represents freedom.

Birds are known to be early warning systems for the state of planet as a whole. Any change in bird population is an indication that their habitat is being destroyed by climate change or other

factors. In the agriculture sector, their beneficence lies in their capability to control insect pests that cause huge damage to crops. The birds in a way also reduce our requirement of chemicals that otherwise are needed to control the insect pests. Birds also help in seed dispersal. Birds eat fruits and disperse the seeds through their fecal matter thus helping in natural spread and rejuvenation of plants. Hummingbirds and sun birds play an important role in pollinating flowers ultimately ensuring the reproduction of plants and production of different commodities. Birds like geese and ducks are used to control weeds especially in paddy crop preventing them from overcropping paddy fields. Similarly birds like peacocks and turkey dig the soil in search of insects, worms, grubs help in aerating the soil and improving its nutrient content. Birds like pigeons and doves contribute to the natural fertilization of agricultural land through their droppings, enriching the soil with essential nutrients. Birds like Garuda (Crested Serpent Eagle), Jatayu (Vulture), Crane (Sarus Crane) have religious as well as cultural significance too. These birds are protected and considered auspicious by certain communities in the country. The Peafowl was proclaimed as India's National Bird in 1963, because Kartikeya, Hindu God rides on its back. Birds from the very beginning have been an integral part of

India's rich biodiversity. By protecting and ensuring their presence in agricultural areas, it helps maintain a balanced ecosystem and conserves the overall eco-health of the region.

Besides birds is also an important source for promotion of ecotourism. Birdwatching and bird tourism can be developed around agricultural areas, attracting visitors and generating additional income for farmers. They also serve as educational tools. The diversity of bird species offers immense benefits for agriculture sector as well as for the environment. Owls are natural predators of rodents and mice, which are common pests in agricultural fields. By feeding on these pests, owls help in reducing crop damage and loss. Kites are known to feed on small mammals, insects, and reptiles. They help in controlling rodent populations, which can cause significant damage to crops. Falcons are used in certain regions of India for falconry, a traditional method of pest control. They are trained to hunt and scare away birds like pigeons, crows, and parakeets that can cause damage to crops. Egrets and Herons are known as water birds and are beneficial in agricultural areas with fish ponds or wetlands. They feed on fish, frogs, and insects, helping to regulate their populations and maintain the ecological balance. Similarly Cuckoos help control caterpillars by feeding on them. They help in controlling the population

of these pests and reduce the need for chemical pesticides. Kingfishers feed primarily on small fish, insects, and aquatic invertebrates. In agricultural areas with water bodies, they help in controlling pests like mosquitoes and small fish that can harm crops. In the Indian subcontinent, Drogons are known for their insect-catching skills. They catch flying insects in mid-air, including mosquitoes, flies, grasshoppers, and crickets, which can be harmful to crops. Swallows are aerial insectivores and feed on flying insects such as mosquitoes, flies, and aphids. They help in reducing the populations of these pests in agricultural fields. Shrikes are known for their habit of impaling their prey on thorns or spikes. They feed on insects, small rodents, and even small birds, contributing to the control of pests in agricultural areas. Birds also have adverse effects on agriculture. The birds are also responsible for the activities like spoiling the land prepared for sowing; they also dig out the seed sown, damage the gunny bags and contaminate grains with their droppings in the grain stores.

The tiny creatures are of great help in the agriculture sector. They need to be protected at any cost and the best way is awareness of the masses about the benefits they give to our planet.

(The author writes on agriculture and social issues)