

CHECK CORRUPTION

Checking corruption is a multifaceted endeavor that requires a comprehensive approach encompassing legal, institutional, and societal measures. To effectively combat corruption, it is essential to address its root causes, strengthen accountability mechanisms, promote transparency, and foster a culture of integrity.

Countries need clear and stringent laws that define corrupt practices, prescribe severe penalties for offenders, and establish independent anti-corruption agencies tasked with investigating and prosecuting corruption cases.

Institutional reforms are crucial for building resilient anti-corruption systems. This includes measures such as establishing codes of conduct for public officials, implementing financial disclosure requirements, and enhancing procurement processes to prevent bid-rigging and kickbacks. Strengthening public financial management systems, including budget transparency and oversight mechanisms, is essential for preventing embezzlement and misappropriation of public funds.

Whistleblower protection laws and mechanisms empower individuals to report corruption without fear of retaliation, thereby facilitating early detection and investigation of corrupt practices.

Governments should adopt open data policies, disclose information about public spending, contracts, and regulatory decisions to the public, and ensure citizen participation in decision-making processes.

Additionally, promoting ethical leadership and integrity in both the public and private sectors is essential for preventing corruption.

Preserving Threatened Wetlands

G L KHAJURIA

In the vast, varied bio-diversity around the world, the lakes and the wetlands are under great threat. This is more so due to human and biotic interference emanating from ever-escalating population, industrialization, overuse or misuse of land for agriculture and exploitation of resources beyond all limits. Alongside, the natural phenomenon of a sizzling summer with soaring temperature year after year, the abrupt climatic changes off-shooting thereby disasters and calamities such as floods and many more of its ilk have sent alarming signal to the counties all around the world. In such a situation, The Survival of man is in Peril over the planet earth and as preserving bio-diversity has now become a catch phrase such for the ecologists around the world.

In Jammu and Kashmir State, lakes and wetland are drying due to ruthless encroachments and enormous siltation though the Govt. is endeavoring hard for rapid actions under the close surveillance of Forest Deptt. (Wildlife wing and the department of Environment and remote sensing). The public awareness and sensitization is the paramount need of the hour as the forest laws are brought under legislation and enactment but these are being honored in only its breach. This has further endangered thousands of the spectacular wildlife and birds (Avi - fauna) so much so that the winged visitors have become more sensitive and resultantly abandoned the lakes and wetlands and alienated migration which over the centuries has been an ongoing process. Glaringly enough, the Siberian cranes have now abandoned visiting world renowned Bharatpur in Rajasthan and so is the case with chikla lake where the situation is grave. The has adversely affected the socio-economic status of the people, apart from depriving the serene and scenic beauty of these water-bodies. And in Delhi zoo itself the migratory birds cover long distance for Seasonal changes, food and finding new ground for breeding. The migration of birds in India is around 1200 species which is spectacular and inspiring As per estimates, in India itself 4.5 million hectares comes under wetlands out of which around one and half million, are natural and some two and half million are man made. CotaDonana (Spain) is world renowned house ground for half of the avian species in Europe itself. The situation is likewise same around the world insofar as shrinkage of water-bodies is concerned. Talking of our most famous lake (Dal in Valley) the area has now shrunk to 10 kms. Which was around 25sq. kms half a century back. Where has all the depleted area gone? Obviously, it has been either silted or devoured under encroachment. Admittedly, this has broken the natural fabric of environment. Same is the case with wular lake (Asia's largest) which has lost its pristine grandeur and glory. As such, it gives a pointer to the modern man to be eco-friendly and eco-conscious which defacto he is not so.

Over the years, the wild life deptt. in association with the over all guidance of Forest Deptt. has endeavored to declare as many areas under wildlife sanctuaries, game reserves parks and further made endless efforts in the preservation of the lakes and other water bodies but again point arise about public awakening which I repeat is the paramount need of the hour. The present status as of now is that we are having as many as seven National parks and wild life sanctuaries (Dachigam NP, Hemis High altitude NP, Overa WLS, Kishtwar NP, RammagarRakh WLS, Nandini Game WLS, and StrinsarMansar WLS) and in so far as wetlands are concerned, there are as many as one in Ladakh region, six in Srinagar and five in Jammu regions. These are; Noorie Chan WL (Ladakh), HOKAR, WL, Shallabag WL, Mirdung WL, ChetlupPampur WL, Krunchoo WL and Hygam WL in Srinagar and Garang WL, Parwal WL, Nanga WL, Kukarum WL and Sangral wetland reserves in Jammu. The overall status is that there is a sum total of 44 (forty four) Game areas under National Parks sanctuaries and wetland reserves and all these warrant protection by all and one in co-operation with the Deptt. and the close supervising agencies.

It is most unfortunate that sanasar now stands almost shrunk and its restoration is of almost importance where visitors through the lake during summer as well as in winter. The spot is located amidst lush green chir pines and is famous for its scenic and serene beauty which is touching new height for its importance with every passing day.

Some suggestive measure in preserving and protection of the wetland and other water bodies, apart from sanctuaries/National Parks.

"Public awareness: The Jammu and Kashmir Wildlife (Protection) Act 1978 was recently amended in 2002 and the amended rules, regulations, enactment made there under need to be made public by way of conducting debates, seminars symposium to honor the spirit in legal sanctity.

"Environment Protection: This can be done with an equal ease by way of massive afforestation/reafforestation operation by planting the most suited species to site, preferably those which are soil binding and water conserving to dilute siltation of the wetland and avert erosion accruing thereupon.

"Aversion of biotic areas: Here, everyone of us need to be psychologically attuned and mentally prepared to make the wetland neat and clean and full of co-operation warrants to be extended to concerned deptt as a good citizen.

"Non-Diversion of the areas: It should be the most sinful to identify the areas under sanctuaries, National Parks, wetland for any purpose under pressure as these areas are as important as our national, heritage.

Will Power: Though the thoughts/attitude differ from person to person, but, there is always something common and that common we have to built in all our senses to safeguard the environs that enlivens us.

(The author is Former Deputy Conservator, J&K Forests).

Artificial Intelligence and Machine Learning in agriculture

DR PARVEEN KUMAR

Agriculture sector is continuously being leveraged with technologies and tools. These technologies and tools perform various agricultural related tasks and accomplish them with great efficiency and precision ultimately saving a lot of time and back breaking labour. It is also true that agriculture sector all across the globe is under severe pressure to produce more with fewer resources. At the same time, it is also facing challenges of limited land, labour shortages, climate change, degradation of natural resources, low yields and many other related ones. At this time when the global population is on the rise and is expected to reach 10 billion by 2050, the food shortages can be addressed by two ways. Firstly by using more land for large-scale farming and secondly by using technology to enhance productivity on existing farmland. This has led to various innovative developments in farming. An important technological intervention that is revolutionizing agriculture sector in the present era and that has the potential to enhance productivity is the Artificial Intelligence (AI) and Machine Learning (ML). We often hear people using AI and ML interchangeably, but both are different. However both are closely related.

AI vs ML: Artificial intelligence (AI) is the branch of science that deals with the development of machines to mimic human intelligence. Machine learning (ML) is a sub-domain of AI where the machine can learn automatically from data without being explicitly programmed. AI and ML techniques have the capacity to optimize resource utilization by analyzing agricultural data. It has changed the present day face of farming by predicting various input parameters and forecasting post-harvest life of a crop. The simplest way to understand how AI and ML relate to each other is that AI is the broader concept of enabling a machine or system to sense, reason, act, or adapt like a human and ML is an application of AI that allows machines to extract knowledge from data and learn from it autonomously. One helpful way to remember the difference between machine learning and artificial intelligence is to imagine them as umbrella categories. Artificial intelligence is the overarching term that covers a wide variety of specific approaches and algorithms. Machine learning sits under that umbrella, but so do other major subfields, such as deep learning, robotics, expert systems, and natural language processing.

While artificial intelligence encompasses the idea of a machine that can mimic human intelligence, machine learning does not. Machine learning aims to teach a machine how to perform a specific task and provide accurate results by identifying patterns. AI allows a machine to simulate human intelligence to solve problems. The goal is to develop an intelligent system that can perform complex tasks like a human. AI has a wide scope of applications and uses technologies in a system so that it mimics human decision-making. It works with all types of data: structured, semi-structured, and unstructured and AI systems use logic and decision trees to learn, reason, and self-correct. Machine Learning (ML) on the other hand allows a machine to learn autonomously from past data. The goal is to build machines that can learn from data to increase the accuracy of the output. We train machines with data to perform specific tasks and deliver accurate results. Machine learning has a limited scope of applications and uses self-learning algorithms to produce predictive models. It can only use structured and semi-structured data and ML systems rely on statistical models to learn and can self-correct when provided with new data.

AI & ML in Agriculture: Since 1950 when the word 'Artificial Intelligence' was coined by John Mc Carthy, AI has travelled a long way being exploited in one or the other way to serve the mankind in the best possible way. Agriculture is both a major industry as well as foundation of the economy. In agriculture sector AI & ML can play a vital and pivotal role in various aspects of crop production and well as in livestock. As mentioned earlier, Artificial intelligence is a sort of machine learning where we try to induce a sense of perception, learning, reasoning and understanding in machines or robots. Now various companies have developed agricultural robots which can handle all the essential agriculture related operations like harvesting crops at a higher volume and faster pace than human laborers. In this regard the crop and soil monitoring is done with the help of sensors and by leveraging computer vision and deep-learning algorithms to process data captured by drones and/or software-based technology to monitor crop and soil health. In predictive agricultural analytics, various artificial intelligence and machine learning tools are being used to predict the optimal time to sow seeds, get alerts on risks

from pest attacks, and more. Various machine learning models are being developed to track and predict various environmental impacts on crop yield such as weather changes. Many companies have also now come up with Supply Chain Efficiencies. These Companies are using real-time data analytics on data-streams coming from multiple sources to build an efficient and smart supply chain.

Today weed management is an important aspect for healthy crops and consequently obtaining higher crop yields. An estimated 250 species of weeds have become resistance to herbicides. A research study conducted by the Weed Science Society of America on the impact of uncontrolled weeds on corn and soybean crops, reported an annual loss of \$43 billion to farmers. The ability to control weeds is a top priority for farmers and an ongoing challenge as weeds have become more herbicide resistant. The companies have now come up with automation and robotics to help farmers find more efficient ways to protect their crops from weeds. Blue River Technology has developed a robot called 'See and Spray' which reportedly leverages computer vision to monitor and precisely spray weeds on cotton plants. This precision spraying has helped prevent herbicide resistance. According to its website, the company claims that its precision technology eliminates 80 percent of the volume of chemicals normally sprayed on crops and can reduce herbicide expenditure by 90 percent. In a country like United States where it has been estimated that over 1 billion pounds of pesticides are used annually, reduction of herbicide expenditure through the use of robotics matter a lot. To reduce the challenges in labour force, automation is also emerging as an important tool to address this issue. The industry is also projected to experience a 6 percent decline in agricultural workers from 2014 to 2024. Harvest CROO Robotics has developed a robot to help strawberry farmers pick and pack their crops. Lack of laborers has reportedly led to millions of dollars of revenue losses in key farming regions such as California and Arizona. In the Hillsborough County, Florida region which has been described as the "nation's winter strawberry capital," between 10,000 and 11,000 acres of strawberries are typically harvested in a season. Harvest CROO Robotics claims that its robot can harvest 8 acres in a single day and replace 30 human laborers.

Time of sowing is very critical component in ensuring a better yield. Towards this, the International Centre for Research on Semi Arid Tropics (ICRISAT) has in collaboration with Microsoft has developed an Artificial intelligence Sowing App powered by Microsoft Cortana Intelligence Suite including Machine Learning and Power BI. This app sends sowing advisories to participating farmers on the optimal date to sow. It uses artificial intelligence to inform the farmers in selected district of Hyderabad about the right sowing date which is very critical to ensure that farmers harvest a good crop. When the farmers are informed about the right date of sowing, it prevents them from loss which they would have incurred due to costs of seeds, as well as the fertilizer applications. This information about timely sowing has already resulted in 30 per cent increase in yield of the farmers receiving the messages. The most interesting thing is that this is very much affordable. Farmer do not have to install any sensors in their fields or incur any capital expenditure. They need to only have a smart feature phone capable of receiving text messages.

Similarly Machine Learning (ML) is used in early warning systems that alert farmers about potential outbreaks. It can also be used to develop models for predicting the spread of pests and diseases. Machine learning can help farmers identify areas of degradation and map out management plans to improve soil health. Drone or satellite photos may be analyzed by deep learning algorithms to track crop health and spot any problems. These models enable prompt action by early illness, pest, or nutritional deficiency detection. Machine learning also helps farmers make informed management decisions on what to grow towards matching the crop to the existing market's demands.

To conclude, one can say that AI and ML bring with them powerful benefits for agriculture sector. New possibilities constantly emerge as the amount of data grows in size and complexity. It will result in automated and intelligent systems coming up and helping to automate tasks, unlock value and generate actionable insights to achieve better outcomes. Both these have the massive potential to disrupt every part of the agriculture industry in the next 100 years.

(The author writes on agriculture and social issues).

Don't be a mule: Observing digital hygiene is of paramount importance

SAJJAD BAZAZ

Do you know? A mule is one of the most commonly used working animals in the world, and is known for its docile nature and ability to endure difficult conditions. Before coming to the exact reason for starting today's column with mention of a mule, let it be clear that mule is not a donkey, but a hybrid between a horse and a donkey, especially the offspring of a male donkey and a mare.

Interestingly, a mule for being a more resilient working animal and submissive in nature has occupied a permanent space in the contemporary financial landscape, but unfortunately for all bad reasons.

In the fast growing digital transaction landscape, transferring of funds in the banking system has become remarkably convenient, consuming just a few minutes to complete the transaction. However, at the same time, this digital revolution in financial transactions has been a gateway to frauds where fraudsters are fine tuning their operations in a more sophisticated way to take advantage of the vulnerabilities within the digital transaction ecosystem. In the whirlwind of financial frauds happening at the back of the digital financial system, it is the money mule fraud which has been a cause of worry for bank customers.

Let me explain. Actually, the cyber criminals have been innovating new mechanisms to not only commit financial frauds but also get the gullible public entangled into the legal trap as part of the crime. Some time back, three Indian students in Singapore were sentenced to prison for participating in a transnational money mule syndicate that was perpetrating "tech support scams." The trio, according to media reports quoting Singapore police officials, received cash in their bank accounts on behalf of the fraudsters. Later they were used to transfer the amount to the fraudsters. Precisely, they were involved in a money laundering scheme in which participants were allowed access to their bank accounts to receive cash. They had allowed their bank accounts to be used against 2% commission of the monies received.

It's not only in foreign transactions that money mules operate, the menace is rampant within the country where account holders are getting money deposited in their accounts through unknown persons (fraudsters). Later the account holders are approached by the fraudsters to seek withdrawal of the money. In majority of such cases, the account holders are not paid any commission, but are threatened of consequences, even police action for money laundering, if the account holder refuses to handover the money.

Basically, the unprecedented exponential growth of digital transactions during the Covid-19 pandemic has been a green pasture for cyber criminals. Millions of new users, who were not having even an iota of understanding about the world of the Internet, boarded the digital platforms to conduct electronic transactions. The fraudsters

left no stone unturned to defraud these gullible people. A report by Deloitte India says banking frauds in India are set to increase in the next two years. Deloitte India conducted the study through compliance officers and senior management of 70 banks of all types and 78 per cent of the banks believe that banking fraud will increase in the next two years.

The rising cyber frauds in the banking sector; whether due to customers' own negligence or banks' carelessness, has a direct bearing on the reputation of the banks. Notably, a fraud committed through a bank account immediately hits the customer's confidence and this invokes not only reputational risk but also operational risk and business risk for the banks.

Since banks cannot afford to stop their customers from using digital channels for conducting their financial transactions, the only way for them is to put in place a sound cyber security system so that fraudsters are unable to penetrate into the customers' accounts.

In other words, the banks and financial institutions have a prime responsibility of creating appropriate tailor-made defence mechanisms against acts of cybercrime. An expert in the fight against cybercrime stresses the need for business organizations like banks to conduct regular threat analyses and positions its defences. accordingly the reports can be used to build increased awareness about risk factors not only among the staff but also among the public.

However, at the same time, the bank customers have to understand that the safety of digital transactions lies in their own hands. Before boarding the digital platform and conducting electronic transactions, they need to understand the security aspect of such transactions. The basic rule for them is not to share their account details such as password, PIN etc. with any person, even with their bank officials. Because the bank never asks its customers to share PIN or password. So, what is meant by money mules? A money mule is someone who transfers or moves illegally acquired money on behalf of someone else. Actually, the cyber criminals use the bank account of account holders to transfer ill-gotten money to remain unidentified. In other words, these gullible account holders are money mules which help the criminals to remain untraced for the crime victims and criminals, as it becomes harder for police or any investigating agency to accurately trace the money trails. A person can become a money mule willingly against some pro t. However, it has been observed that most of the money mules are unaware about the crime till the fraudsters get trapped. So think, if you are moving money at the behest of some other person, you may be serving as a money mule. As far as the modus operandi adopted by the fraudsters to recruit money mules is concerned, the RBI directions in this regard are worth quoting. The apex bank has come out with a publication titled 'BE(A)WARE - A booklet on Modus Operandi

of Financial Frauds', which provides details of commonly observed modus operandi, precautions to be taken against fraudulent transactions and digital hygiene to be followed by the public.

The modus operandi adopted by the cyber criminals to take money mules on board in their criminal acts is explained as:

- Fraudsters contact customers via emails, social media, etc., and persuade them to receive money into their bank accounts (money mule), in exchange for attractive commissions.
- The money mule is then directed to transfer the money to another money mule's account, starting a chain that ultimately results in the money getting transferred to the fraudster's account.
- Alternatively, the fraudster may direct the money mule to withdraw cash and hand it over to someone.
- When such frauds are reported, the money mule becomes the target of police investigation for money laundering.
- What are the precautions to be observed for a bank account holder? The basic thing is not to share the details of your bank account, especially to a stranger: There is every possibility that you may be lured to share the account details, but don't succumb to the greed. Following precautions, listed by the apex bank in its recent booklet, need to be noted if you don't want to get trapped as a money mule:
 - Do not allow others to use your account to receive or transfer money for a fee/payment.
 - Do not respond to emails asking for your bank account details.
 - Do not get carried away by attractive offers / commissions and give consent to receive unauthorised money and to transfer them to others or withdraw cash and give it out for a handsome fee.

Now, the most important to take note of are the consequences if one is found involved as a money mule.

It is illegal to be a money mule and warrants punishment as is evident from the story of three Indian students trapped in Singapore narrated above. Even if you aren't aware of being used as a money mule, you would be held responsible for a crime.

The RBI states, if the source of funds is not genuine, or the rationale for underlying transaction is not proved to authorities, the receiver of money is likely to land in serious trouble with police and other law enforcement agencies.

Besides, a money mule can also damage his credit and financial standing and law can hold him personally liable for repaying money lost by victims.

The article contains extracts from the author's forth-coming book - Straight Talk: Contemporary Banking Decoded - to be released soon.

(The author is former Head of Corporate Communication & CSR and Internal Communication & Knowledge Management Departments of J&K Bank).

From Begging Bowl To Books

DR DAISY PARIHAR

Travelers of life, turn back and see I am just a human like you. When we see tiny hands reaching out not for toys or treats, but for money, it stirs something deep within us. It's a silent plea, a cry for help masked by innocence. It's a heart-drenching moment that awakens our empathy and compels us to act to ensure that every child has the opportunity to hold books instead of begging bowls, and to rewrite their destinies with the power of learning.

"Wings of education are finding their way to me, life's voyage is unfolding finally free.

I will not plead for wealth, nor beg for silver gleam, my destiny through learning shall be my theme."

In a world where poverty often forces individuals to resort to begging for survival, there exists a transformative alternative to education. The image of the begging bowl is replaced by a powerful symbol of empowerment 'BOOKS IN HAND'. In a society that is often quick to judge based on superficial perception, there is a plea, don't close the door after seeing our clothes, we too are human and can become better if given a chance. Your help in education serves as a profound reminder of our shared humanity. This plea speaks to a universal truth regardless of external appearances or circumstances. Every individual possess the potential for growth, improvement and contribution to society.

Don't donate cakes or chocolate, donate education if you want to help the poor children

While material donations may provide immediate relief, they often fall short in addressing the systemic barriers that perpetuate poverty. By equipping underprivileged children with quality educa-



tion, we can give them tools to break free from poverty. It has many benefits and can extend across multiple dimensions of economic activity. First and foremost, an educated workforce is essential for fostering innovation, productivity and competitiveness in today's knowledge-based global economy. It can reduce poverty, inequality and social exclusion. Beyond its intrinsic value, it holds the key to unlocking a nation's economic potential, particularly when it comes

to uplifting underprivileged communities. One of the most direct ways in which education contributes to economic growth is through its impact on workforce productivity in fostering entrepreneurship and innovation, both of which are key drivers of economic growth.

Girls growing up in poverty face a multitude of challenges that often hinder their ability to access education, security and stable environment and fulfill their potential. Financial constraints, cultural norms and household responsibilities often force girls to drop out of school. As we work towards building a move towards an equitable world, let us prioritize the empowerment of girls living in poverty as a cornerstone of our efforts to achieve gender equality and social justice.

The transformative power of educating just one girl extends beyond individual empowerment- it sets in motion a ripple effect that uplifts families, transforms communities and propel societies forward. Idle time often acts as a breeding ground for negative habits to take route. In the ongoing battle against crime and drug abuse, education emerges as a powerful ally offering individuals the tools and knowledge needed to make positive choices. It also serves as the bedrock upon which the pillars of progress are built. By investing in the education of people especially underprivileged children, countries can unleash a way of human potential that propel them to the forefront of global innovation and prosperity.

In the conclusion, as we head the call to join hands, to uplift the poor, let us remember that our actions today will shape the world of tomorrow. Together, we have the power to make a difference to build a more compassionate society and to create a future for the children where poverty is no longer a barrier to human flourishing.

"Each one help one."