UPSC CURRENT AFFAIRS NOTES 16-09-2023

UNITED NATIONS CYBERCRIME TREATY

India has made suggestions at the United Nations Cybercrime Treaty that the transfer of "Personal Data" under the convention will be done in accordance with the country's domestic laws and not other applicable international laws.

United Nations Cybercrime Treaty

The United Nations is currently negotiating a major Cybercrime Convention.

It has the potential to substantively reshape international criminal law.

It can bolster cross-border police surveillance powers to access and share users' data, implicating the human rights of billions of people worldwide.

To coordinate the new Convention, the UN General Assembly passed Resolution 74/247 in December 2019 and established the Ad Hoc intergovernmental committee to "Elaborate a Comprehensive International Convention on Countering the Use of Information and Communication Technologies for Criminal Purpose."

The proposed Convention will likely deal with several topics such as substantive cybercrime provisions, international cooperation, access to potential digital evidence by law enforcement authorities, including across borders, as well as human rights and procedural safeguards.

The United Nations Office on Drugs and Crime (UNODC), through the Organized Crime and Illicit Trafficking Branch, Division for Treaty Affairs, serves as the Secretariat for the Ad Hoc Committee.

TTPS (TACTICS, TECHNIQUES AND PROCEDURES)-BASED CYBERCRIME INVESTIGATION FRAMEWORK

A new cybercrime investigation tool would soon be able to track cyberattacks targeting humans, like insurance fraud, online matrimonial fraud, and so on.

The tool called TTPs (tactics, techniques and procedures)-based cybercrime investigation framework can help in tracking and classifying cybercrimes identifying the chain of evidence required to solve the case, and mapping evidence onto the framework to convict criminals.

The technology can create an approximate crime execution path and suggest a crime path based on user derived set of keywords.

It can also compare modus operandi (Mode of Operation) used in different crimes manage user roles and track activity for crime paths.

Significance

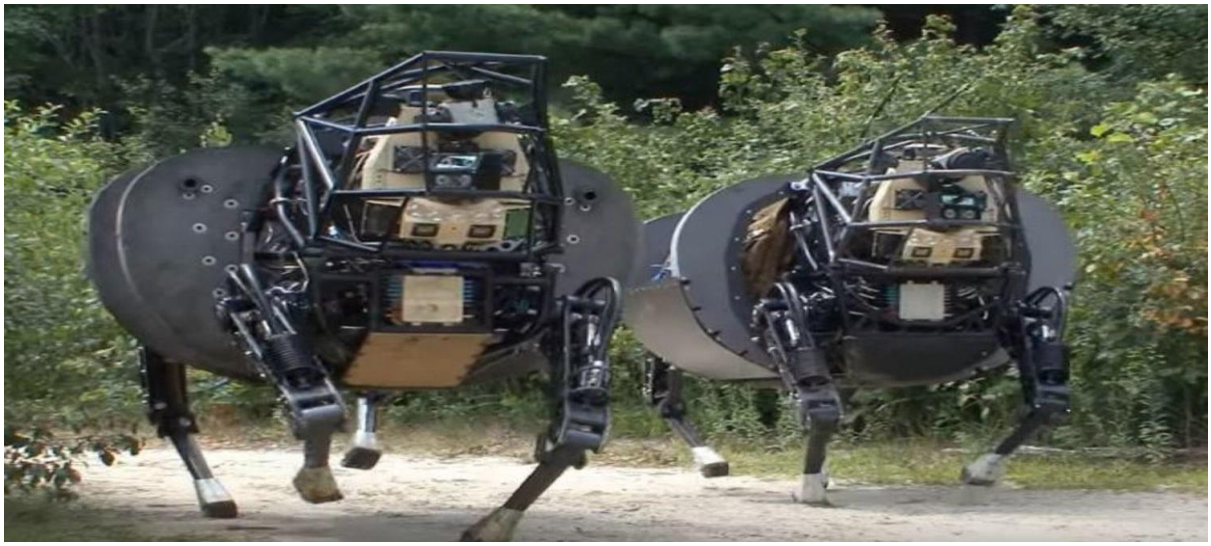
The TTPs-based investigation framework could be highly effective as it restricts the numbers of forms and methods the investigation can be conducted and primarily relies on criminals' TTPs.

This leads to precise and rapid conviction of cybercriminals.

Implementation of the developed cybercrime investigation framework and tool, which is now ready for deployment with the police, cybercriminals can be tracked and convicted easily, reducing cybercrime activities throughout the country.

Multi-Utility Legged Equipment (MULE)

The North-Tech Symposium 2023 was jointly organised by the Indian Army's Northern Command, the Society of Indian Defence.



One of the equipment displayed at the symposium was a Multi-Utility Legged Equipment (MULE).

All about the Multi-Utility Legged Equipment

MULE, is a four-legged equipment, that has a sleek design along with camera and radars.

It has a payload capacity of 12 kg, and the equipment can be used on Wi-Fi or Long-Term Evolution (LTE).

For short ranges, Wi-Fi can be used, whereas LTE can be used for distances up to 10 km from a remote location.

The MULE is an analog-faced machine that is controlled by an easy-to-operate remote control.

Several payloads can be attached to the MULE like thermal cameras and radars.

It also has a firing platform that can also be integrated into it.

Pre-fed missions can be uploaded on the system to convey what mission is to be completed, be it through waypoints or recorded missions.

MULE can navigate its trek through all terrains — be it snow-clad ground or rugged mountains.

MULE can climb mountains which may present up to 45 degrees incline/climb and also climb steps as high as 18 cm.

Multi Weapon Engagement System (Anti Drone System)

Another equipment showcased at the symposium was an AI-based Autonomous Multi Weapon Engagement System (Anti Drone System). Its main objective is to shoot down drones and "kill" them.

The system is divided in three parts — the first is a weapon platform where several types of weapons including light machine guns, rifle and carbine can be installed; the second is an AI-based laptop; and the third is a controller box.

It consists of two modes — the autonomous mode and manual mode. In autonomous mode, it would detect and track the drone itself, and allow the operator to kill the target. In manual mode, it can be used for a survillance.

The system can shoot down any target, ariel or terrastrial.

It has been developed by the Military College of Electronics And Mechanical Engineering. (MCEME)

Government is thinking of permitting accrual of carbon credits for exported green hydrogen and green ammonia: Union Minister for Power and New & Renewable Energy at 4th International Conference & Exhibition on Clean Energy

Round-the-clock renewable energy will cost just about Rs. 6 per unit if green hydrogen is used for storage.

The Union Minister for Power and New & Renewable Energy Shri R. K. Singh has said that round-the-clock renewable energy will cost just about Rs. 6 per unit if green hydrogen is used for storage. Speaking at the Special Ministerial Session of the Fourth International Conference & Exhibition on Clean Energy in New Delhi today, Shri R. K. Singh said that the cost of Green Hydrogen would be cheapest in India and that the Green Hydrogen would become a viable energy storage alternative. "Green hydrogen is cheaper than gas and battery energy storage systems. We have come up with a pilot bid for about 100 MW which we hope will establish the benchmark. Once we are able to use green hydrogen for our energy requirements, all supply chain issues such as availability of lithium-ion batteries will be resolved. We will make green

hydrogen and use it as storage. The average price of power in the energy exchange has recently been Rs. 8 per unit, so if our cost for round-the-clock renewable energy comes to Rs. 6 per unit, we are in business. That is what the future is: renewables. The future is here, not far away." The theme of the Special Ministerial Session, held on the closing day of the two-day summit, was "Global Champions for Advancing Clean Energy Innovation & Manufacturing".

The Minister informed the industry that the basic legal framework for carbon market has been formulated and that the government is thinking of permitting the industry gain carbon credits for green hydrogen and green ammonia which is exported from India. With this, the industry will have yet another advantage, which will make Indian industry totally competitive, added the Minister.

"I have written to all industry captains to switch over from thermal to renewables"

The Minister said that the renewable energy industry of India is now world-beating, consisting of majors who can compete anywhere. Shri Singh told the industry that the government has made sure that it has opened the paths for the growth of the industry. "We have been leading with policy papers, rules and regulations, opening new doors. We came with Green Open Access Rules, where we have given right for anybody to set up capacity anywhere and transfer it to wherever they want. I have written to all industry captains to switch over from thermal to renewables, this shift will also bring down price of energy."

"We have made the power system friendly to both industry and to consumers"

The Minister informed that the spirit of Electricity Act 2003 is open access and that timelines for grant of open access have been given in the Act. "If grant of open access is not given within the timeline, it will be deemed to have been granted. Somebody will have to answer if it is not given; the person who heads that institution such as a State Electricity Authority will be punished if the law is violated."

Shri Singh added that the government has made the power system friendly to industry and to consumers. "We came up with consumer rights; we will investigate whether the violation has happened, and we will file a prosecution in the court of law."

"India is emerging as a manufacturing powerhouse of renewable energy"

Speaking of the rapidly growing energy demand, the Minister said that energy demand of the country will continue to grow rapidly since our economy is growing fast. "We need energy

demand as fast as possible to meet this demand. We will make the electricity required for our growth. If our price for round-the-clock renewable energy is anything to go by, then we will not have to go the thermal way, we will adopt the renewable path. About 42% of our capacity is from renewable sources already."

The Minister pointed out that India is emerging as a manufacturing powerhouse of renewable energy. "Around 88,000 MW renewable energy capacity is under construction and our plan is to add 50,000 MW of renewable energy capacity every year. We are already emerging as an exporter. The world will come to rely on us more and more. So, all those who are setting up capacity have made a good bet. At the same time, we need to keep ourselves at the leading edge of technology." The Minister added that India is going to emerge as the biggest exporter of solar cells and modules and that more grid capacity is being added.

"RE Investment is coming, era of huge growth for renewable energy"

The Power and New & Renewable Energy Minister said that more and more people are going to come and invest in renewable energy sector in the country. "UAE wants to make investment here, since they see the future here. Getting investment for green transition is not an issue, investment is coming since we have de-risked the system and made the whole system transparent. Every generator's power bills are totally up-to-date. Legacy dues of discoms have been reduced to less than half of what they were, and this too will be wiped out in next 2 – 3 years. Every genco is now profitable. AT&C losses have come down and the system is totally viable now. Everything has been made conditional on prudential norms."

The Minister informed that 5.8 million tons of green hydrogen at various stages of capacity is already being set up, under the National Green Hydrogen Mission. "We will be the biggest exporter since our green hydrogen and green ammonia cost is going to be the lowest in the world. And we will come up with another bid for grid scale storage. All that you have to do is to take advantage of the growing demand. Future Renewable Energy Purchase Obligations are going to be issued under the revised Energy Conservation Act. If any obligated entity falls short, they will have to pay a huge penalty."

The Minister assured the industry that this is an era of huge growth for energy. "I believe all of you are fully confident and capable of the huge opportunities lying there for you. We want Make in India and manufacturing in India. But if you are not competitive and up-to-date, you will not succeed. I want all of you to be world-scale."

"Potential for India to become a global champion in Renewable Energy"

On the occasion, a CII - EY Report titled "Global champions for advancing renewable energy innovation and manufacturing" was released.

The report notes that India's energy transition holds potential for India to become a global champion for advancing renewable energy innovation and manufacturing. The report proposes an energy transition investment pipeline and identifies enablers for advancing supply chain resilience. Read the report here.

Launch of a Platform to Track Energy Transition Investments

The event also saw the release of "Energy Transition Investment Monitor", a collaborative analytics platform for global investors to identify and track energy transition investments (announced, under bidding, permitting, construction, etc.) from concept to commissioning.

The Energy Transition Investment Monitor platform can be accessed here. Upon registration, any user can get full and free access to the dashboard and its features.

The 4th International Conference & Exhibition on Clean Energy brought together industry leaders, veterans, experts and policymakers from around the world to showcase world-leading

renewable energy innovation, products and services, facilitate knowledge sharing and collaboration for catalysing global efforts in building self-reliant supply chains.

GLOBAL TRENDS IN CHILD MONETARY POVERTY

The global landscape is witnessing a deeply concerning trend - the increasing prevalence of child poverty.

In a recent assessment, Global Trends in Child Monetary Poverty, conducted jointly by the World Bank Group and UNICEF, it has been revealed that a staggering proportion of the world's extremely poor population is comprised of children.

Children Predominating Extreme Poverty

In 2022, children constituted a striking 52.5 percent of the total global extreme poor population.

This unsettling statistic signifies that every second individual living in extreme poverty is a child.

Escalating Child Share in Poverty

The proportion of children among the extreme poor is steadily rising, surging from 47.3 percent in 2013 to 52.5 percent in 2022.

Consistent Assessment Efforts

This marks the third collaborative assessment by the World Bank Group and UNICEF, following previous reports in 2016 and 2020.

The assessment incorporates a newly adopted global poverty line of $2.15, introduced in mid-September 2022, with updated data from the World Bank's Poverty and Inequality Platform.

Children Bearing Disproportionate Poverty

Child poverty exhibits a stark disparity; in 2022, 9 percent of the global child population resided in extremely poor households, whereas only 6.6 percent of adults did.

Children are over twice as likely as adults to endure extreme poverty, comprising more than half of the extreme poor, despite constituting only 31 percent of the total population.

Child Poverty in India

India grapples with its share of child poverty, with 11.5 percent of children residing in extremely poor households.

Translated into absolute numbers, this equates to a staggering 52 million Indian children living in poverty.

Age-Related Poverty Disparities

Among children, the 0-5 year age group experiences the highest poverty rate, with 18.3 percent, equivalent to 99 million children, living in extreme poor conditions.

The assessment reveals that the average poverty gap for children under 18 at the $2.15 line is notably higher (5.1 percent) than that of adults (1.9 percent), indicating greater severity of poverty among children.

Regional Hotspots of Child Poverty

Child poverty is concentrated in sub-Saharan Africa and South Asia, with these regions accounting for a substantial 90 percent of the world's extremely poor children.

Sub-Saharan Africa boasts the highest child poverty rate globally at 40 percent, while South Asia follows closely at 9.7 percent.

Impact of the Pandemic

Child poverty had been in decline globally, with 63.3 million children escaping poverty between 2013 and 2019.

However, the COVID-19 pandemic disrupted this progress, with a significant increase in child poverty in 2020. While reductions resumed in 2021, they did not match pre-pandemic rates.

The Pervasive Impact of Child Poverty

Persistent child poverty poses a formidable challenge to the global commitment to eliminate extreme poverty by 2030, as outlined in the Sustainable Development Goals (SDG).

Leaders and organizations like UNICEF and the World Bank stress the critical need for investments in education, nutrition, healthcare, social protection, safety, and security to lift children out of poverty and break the cycle.

EPIZOOTIC HAEMORRHAGIC DISEASE

Epizootic haemorrhagic disease (EHD) has caused more than 150 outbreaks in Spain, Portugal and southern Italy since November last year. The disease affects cows, deer and sheep and is transmitted by midges that carry the virus.

The UK's Department for Environment, Food and Rural Affairs (DEFRA) says that climate change may have led to warmer summers that favour the midges' survival and reproduction.

It also warns that the disease is moving towards the northern regions of Spain, such as Basque, Aragon and Catalonia, where there are many cattle farms and where France is nearby.

Epizootic Hemorrhagic Disease (EHD)

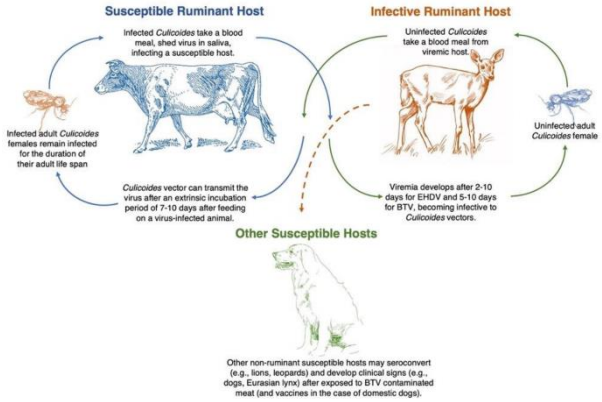
About

Epizootic Hemorrhagic Disease (EHD) was first identified in the United States in the 1950s.

It is caused by viruses belonging to the Orbivirus genus and is primarily transmitted through the bites of infected midges (Culicoides species). These midges serve as vectors for the virus, transmitting it from one animal to another.

Over time, EHD has spread to various parts of the world, including parts of Africa and the Middle East.

EHD primarily affects ruminant animals, such as cattle, deer, sheep, and goats. The symptoms of EHD can vary in intensity depending on the severity of the infection.



Symptoms of EHD

Fever: When cattle are infected with EHD, they often exhibit an elevated body temperature. This fever is a physiological response to the presence of the virus in their system. The rise in body temperature is one of the initial indicators of infection.

Weakness: Affected cattle typically become noticeably weak and lethargic. This weakness can manifest as reduced physical activity, difficulty standing, and an overall lack of energy. It is a consequence of the virus's impact on the animal's overall health.

Lack of Appetite: EHD-infected cattle frequently experience a significant loss of appetite. They may display a reluctance to eat and drink, resulting in reduced food intake. This decreased interest in food can lead to weight loss over time.

Difficulty Swallowing: Some infected cattle may struggle with swallowing due to the presence of oral lesions caused by the disease. These lesions can make eating and drinking a painful and challenging process for the animal. This symptom can further contribute to the overall decline in their health.

Skin Rash on Udder: EHD can cause skin lesions, including a rash, to develop on the udder and other areas of the cattle's body. These lesions may appear as raised or discoloured areas on the skin and can be visually observed. Skin abnormalities like these can serve as external markers that veterinarians use to diagnose EHD.

In severe cases, **EHD can lead to complications and even death in cattle**. The progression and outcome of the disease can vary from one infected animal to another.

Impact on affected livestock populations and the agricultural industry

Morbidity and Mortality

EHD can have a devastating effect on livestock such as cattle, sheep, deer, and other susceptible animals. Infected animals often experience a range of symptoms, and in severe cases, the disease can be fatal.

The morbidity and mortality rates can vary depending on the virulence of the virus and the overall health of the affected animals. High mortality rates can result in substantial losses within affected herds or populations.

Trade Restrictions

Outbreaks of EHD can lead to trade restrictions and limitations on the movement of animals, both domestically and internationally. These measures are implemented to prevent the spread of the disease to unaffected areas.

Trade restrictions can disrupt the livestock trade, impacting farmers, ranchers, and the broader agricultural industry. Additionally, limitations on the movement of animals can complicate breeding programs and livestock management.

Economic Losses

The economic impact of EHD on the agricultural industry can be significant. Infected animals may experience reduced productivity, such as decreased weight gain in cattle or lower milk production in dairy cows.

In severe cases, infected animals may need to be culled or euthanized to prevent further spread of the disease, resulting in direct financial losses for farmers and ranchers. Additionally, the costs associated with veterinary care, diagnostic testing, and disease management can add to the economic burden.

Epizootic Hemorrhagic Disease (EHD) presents several challenges

Vector-Borne Transmission

EHD is primarily transmitted by biting midges (Culicoides spp.), which are small insects. Controlling the spread of EHD can be challenging because it requires addressing the vector population. Midges are highly mobile and can travel significant distances, making it difficult to prevent their movement and the transmission of the virus from infected to susceptible animals.

Vector control measures, such as insecticide treatments and habitat management, may be used to mitigate this challenge.

Environmental Factors

Environmental conditions play a crucial role in the epidemiology of EHD. Factors like temperature, humidity, and the presence of suitable breeding sites for midges can influence the prevalence and activity of the vector population.

Warmer and wetter conditions can create more favourable environments for midges to breed and transmit the virus. This makes the disease's occurrence and severity highly dependent on local environmental conditions.

Climate Change

Climate change is a significant concern when it comes to EHD. As global temperatures rise, it can lead to the expansion of suitable habitats for midges and extend their activity periods.

Warmer summers, in particular, can create conditions that are conducive to both midge proliferation and the spread of EHD. This means that regions that were previously unaffected by EHD may become at risk due to changing climate patterns.

Adaptation and preparedness measures are necessary to address these changing dynamics, including monitoring and early warning systems.

Cure and Prevention

There is no specific cure for EHD, and treatment primarily focuses on supportive care for affected animals.

Vector Control

Insecticide Application: Applying insecticides to livestock and their surroundings can help reduce midge populations. These insecticides can target adult midges and larval stages in breeding sites.

Environmental Management: Proper environmental management is crucial. Eliminating stagnant water sources where midges breed, such as puddles and waterlogged areas, can reduce

breeding opportunities. Additionally, improving ventilation and creating barriers, like fine mesh screens, to keep midges away from livestock facilities can be effective.

Vaccination

In some regions, vaccines against specific strains of EHD have been developed and used as part of disease prevention strategies. These vaccines are administered to susceptible animals and can help reduce the severity of the disease if they are exposed to the virus.

The efficacy of these vaccines can vary depending on the specific strain of EHD virus in the area and other factors. Vaccination programs are typically carried out by veterinarians and are a valuable tool in areas with a history of EHD outbreaks.

Movement Restrictions

Implementing movement restrictions on livestock from areas affected by EHD is a crucial step in preventing the spread of the disease. This involves limiting the movement of animals out of affected regions to prevent them from carrying the virus to new areas. The extent of these restrictions can vary depending on the scale of the outbreak and the risk of disease transmission.

Government agencies and veterinary authorities typically oversee and enforce these restrictions.

Surveillance and Early Detection

Monitoring and surveillance of livestock populations and midge populations are vital for early detection of EHD outbreaks. Veterinarians, livestock producers, and government agencies collaborate to monitor for signs of the disease in animals and to track the presence of midges.

Early detection allows for prompt intervention and the implementation of control measures.

Education and Awareness

Raising awareness among farmers, livestock producers, and veterinarians about the risks associated with EHD and the importance of implementing preventive measures is critical. This educational effort includes teaching individuals about the clinical signs of EHD, the necessity of reporting suspected cases, and the value of vaccination in high-risk areas.

Way Forward

The management and control of EHD require collaborative efforts among veterinarians, farmers, and government agencies.

Monitoring and surveillance of both the disease and the midge vectors are crucial to detect outbreaks early and implement control measures.

Research into more effective vaccines and treatments remains important to combat the disease's impact on livestock and prevent potential economic losses.

Climate change adaptation strategies and vector control measures will also be essential in regions where EHD is a concern due to its association with environmental conditions and vector abundance.