# DAILY CURRENT AFFAIRS ANALYSIS

## 29 APRIL 2024

# 1 - Green Elections in India:

## GS II

## Election related issues

- **Context:**

- Recently, the Election Commission of India (ECI) voiced its concern over the environmental risks associated with the use of non-biodegradable materials in elections.

- It has been urging parties and candidates to avoid the use of plastic/polythene for preparation of election material during an election campaign, since 1999.

- **Why is There a Need for a Shift Toward Green Elections?**

- Environmental Footprint of Traditional Elections: Traditional election processes have significant environmental consequences due to various factors:
- Campaign Flights: The emissions from campaign flights during elections contribute significantly to the overall carbon footprint.
- For example: In the 2016 US presidential elections, the emissions from just one candidate's campaign flights were equivalent to the annual carbon footprint of 500 Americans.
- Deforestation and Other Issues : Reliance on paper-based materials for ballots, campaign literature, and administrative documents leads to deforestation and energy-intensive production processes.
- Energy-Saving: Large-scale election rallies with loudspeakers, lighting, and other energy-consuming equipment contribute to energy consumption and emissions.
- Waste Generation: PVC flex banners, hoardings, and disposable items used during campaigns add to waste generation and environmental impact.

- **What is Carbon Footprint?**

- As per the World Health Organization (WHO), a carbon footprint quantifies the influence of human activities on carbon dioxide ($CO_2$) emissions generated from burning fossil fuels, typically measured in metric tons of $CO_2$ emissions.
- It is gauged in terms of annual $CO_2$ emissions, a metric that may include additional greenhouse gasses such as methane, nitrous oxide, and other $CO_2$-equivalent gasses.
- It can be a broad measure or be applied to the actions of an individual, a family, an event, an organization, or even an entire nation.

- **What is the Concept of Green Elections?**

- Green Elections: Green elections are practices that aim to reduce the environmental impact of electoral processes. They involve measures such as using recycled materials, promoting electronic voting, and encouraging candidates to adopt sustainable campaign practices.
- Green elections aim to minimize the environmental impact of electoral processes through:
- Eco-Friendly Campaign Materials: Candidates and parties can adopt sustainable alternatives such as recycled paper, biodegradable banners, and reusable materials.
- Reducing Energy Consumption: Opting for energy-efficient lighting, sound systems, and transportation during rallies can help reduce the carbon footprint.
- Promoting Digital Campaigns: Leveraging digital platforms for campaigning (websites, social media, and email) reduces paper usage and energy consumption.

- **What are Successful Examples of Eco-friendly Electoral initiatives?**

- **Example from India:**

- **Kerala's Green Campaign:**

- During the 2019 general election, the Kerala State Election Commission took a proactive step by urging political parties to avoid single-use plastic materials during their campaigns.
- Single-use plastic is a disposable material that can be used only once before it is either thrown away or recycled, like plastic bags, water bottles, soda bottles, straws, plastic plates, cups, most food packaging and coffee stirrers are sources of single use plastic.
- Subsequently, the Kerala High Court imposed a ban on flex and non-biodegradable materials in electioneering.
- As an alternative, wall graffiti and paper posters emerged, promoting a more sustainable approach. Additionally, government bodies collaborated with the district administration in Thiruvananthapuram to ensure a green election, emphasizing eco-friendly practices. Training sessions were also conducted in villages for election workers to raise awareness and promote environmentally conscious behavior.

- **Goa's Artisan-Crafted Eco-Friendly Booths:**

- In 2022, the Goa State Biodiversity Board took a significant step by introducing eco-friendly election booths for the Assembly elections.
- These booths were constructed using biodegradable materials meticulously crafted by local traditional artisans from Sattari and Ponda.
- Not only are these materials environmentally friendly, but they also support local artisans.

- **Overseas Example:**

- **Sri Lanka's Carbon-Sensitive Campaign:**

- In 2019, Sri Lanka's Podujana Peramuna (SLPP) party launched the world's first carbon-sensitive environmentally friendly election campaign.
- They meticulously measured carbon emissions from campaign activities, including vehicles and electricity usage.
- To offset these emissions, they engaged the public in tree planting initiatives across each district.
- This innovative approach not only reduced the campaign's carbon footprint but also raised awareness about the importance of forest cover.

- **Estonia's Digital Voting Revolution**

- Estonia laid the foundations for digital voting as an alternative to traditional paper-based methods.
- Their approach encouraged voter participation while significantly reducing the environmental impact.
- By implementing robust security measures, Estonia demonstrated that digital voting can be both eco-friendly and electorate-friendly. The success of this approach suggests that other democracies can follow suit.
- These examples demonstrate that prioritizing environmental considerations in electoral processes can set an example for other nations and contribute to a more sustainable future.

- **What are the Challenges in Adoption of Green Elections?**

- Access to New Technologies and Training for Officials: Ensuring that all voters have fair access to new technologies is crucial. However, this requires substantial efforts in terms of training election officials and educating voters about the new systems. Some specific challenges include:
- Training and Familiarization: Election officials need to be proficient in operating and troubleshooting the new technology. Adequate training programs are essential to bridge the knowledge gap.
- Equitable Access: Ensuring that all voters, including those in remote or underserved areas, can access and use the technology is a challenge. Addressing disparities in internet connectivity and digital literacy is vital.
- Financial Constraints and Upfront Costs: Implementing eco-friendly materials and advanced technology often comes with significant upfront costs. Governments, especially those with limited budgets, may hesitate due to financial constraints.
- Budget Allocation: Allocating funds for technology upgrades while balancing other essential services is a delicate task. Prioritizing modernization within budget limitations is challenging.
- Long-Term Savings: Although initial costs may be high, emphasizing the long-term benefits (such as reduced paper usage and streamlined processes) can help justify the investment.

- Cultural Inertia and Voter Behavior: Traditionally, voting has been associated with physical presence at polling booths. Overcoming cultural inertia and changing voter behavior is essential for successful modernization:
- Perceived Importance of Physical Voting: Many voters view physically going to the polls as a sacred civic duty. Convincing them that digital alternatives are equally valid can be challenging.
- Trust in New Systems: Building trust in electronic voting systems is critical. Public skepticism about security, privacy, and potential manipulation must be addressed through transparency and robust safeguards.
- Security Concerns and Compromises: Introducing new approaches, such as online voting or blockchain-based systems, raises concerns about vote security:
- Cybersecurity Risks: Ensuring that voting systems are secure from cyber threats is paramount. Any compromise could undermine public trust and the integrity of elections.
- Balancing Security and Accessibility: Striking the right balance between robust security measures and user-friendly interfaces is a challenge. Rigorous security protocols should not hinder ease of use.

- **Way Forward:**

- This green transition must involve all stakeholders such as political parties, Election Commissions, governments, voters, the media and civil society.
- The success of integrating top-level directives with grassroots initiatives to foster a green transition is imperative.
- Political parties must take the lead. The journey can begin by enacting legislation mandating eco-friendly electoral practices, with the ECI incorporating them in the Model Code of Conduct.
- This involves campaigning through digital platforms or door-to-door campaigning (reducing energy-intensive public rallies) and encouraging the use of public transportation for election work.
- Incentivising the replacement of plastic and paper-based materials with sustainable local alternatives for polling booths, such as natural fabrics, recycled paper and compostable plastics, will aid waste management and support local artisans.
- The ECI can push for digital voting even though this necessitates the training and capacity building of officials.
- To ensure equal participation of all voters in the digital electoral process, the government must educate and support voters and ensure equitable access to digital technology.

*Source → The Hindu*

# 2 - Using AI in Elections:

# GS II

# Election related issues

- **Context:**

- As AI evolves towards mimicking human capabilities evolving from Generative Artificial Intelligence (GAI) to Artificial General Intelligence (AGI), its impact on elections, exemplified by India's upcoming polls, underscores the imperative of addressing its potential influence.

- AGI refers to the hypothetical ability of an AI to understand, learn, and apply knowledge in a manner similar to human intelligence across a wide range of tasks and domains.
- AGI aims to replicate the cognitive abilities of humans, such as reasoning, problem-solving, perception, and understanding natural language.

- **How is AI Linked with the Electoral Landscape?**

- **Campaign Strategy and Targeting:**

- Political parties and candidates can use AI algorithms to analyse vast amounts of data about voters, including demographics, social media activity, and past voting behaviour, to tailor their campaign messages and target specific voter groups more effectively.

- **Predictive Analytics:**

- AI-powered predictive analytics can forecast election outcomes by analysing various factors such as polling data, economic indicators, and sentiment analysis from social media.
- This can help parties allocate resources strategically and focus on key battleground areas.

- **Voter Engagement:**

- AI chatbots and virtual assistants can engage with voters on social media platforms, answering questions, providing information about candidates and policies, and even encouraging voter turnout.
- This can enhance voter engagement and participation in the electoral process.

- **Security and Integrity:**

- AI-powered tools can be employed to detect and prevent election fraud, including voter suppression, tampering with electronic voting systems, and the spread of disinformation. By analysing patterns and anomalies in data, AI algorithms can help ensure the integrity of the electoral process.

- **Regulation and Oversight:**

- Governments and election authorities can use AI to monitor and regulate political advertising, identify violations of campaign finance laws, and ensure compliance with electoral regulations. AI-powered tools can help enforce transparency and accountability in the electoral process.
- In 2021, the Bihar Election Commission tied up with AI firm Staqu to use video analytics with optical character recognition (OCR) to analyse CCTV footage from counting booths during the panchayat elections.
- The system enabled the Bihar Election Commission to achieve complete transparency and eliminate any chances of manipulation.

- **What are the Concerns of Deploying AI for Electoral Purpose?**

- **Manipulation of Electoral Behavior:**

- AI models, particularly Generative AI and AGI can be used to spread disinformation, create deep fake elections, and inundate voters with highly personalised propaganda, leading to confusion and manipulation of democratic processes.
- Using AI, Deepfake Videos of opponents can be created to tarnish their image.
- The term "Deep Fake Elections" refers to the use of AI software to create convincing fake videos, audios, and other content that can deceive voters and influence their decisions.
- This phenomenon poses a serious threat to the integrity of elections and undermines public trust in the electoral process.
- One prominent example highlighting the potential dangers of such manipulation is the Cambridge Analytica scandal.
- Cambridge Analytica, a now-defunct political consulting firm, notoriously exploited Facebook data to create targeted political advertisements and influence voter behavior during the 2016 United States presidential election and other campaigns globally.

- **Messaging and Propaganda:**

- AI tools can be trained to translate in regional languages which can be used by the candidates for Microtargetting in their campaign.

- Microtargeting is a marketing strategy that uses recent technological developments and reaching out to specific segments of a larger audience based on detailed demographic, psychographic, behavioral, or other data.
- AI can also be used for the customisation of political campaigns based on the local dialect and demography of the voter base.

- **Spreading Disinformation:**

- The World Economic Forum's (WEF's) Global Risks Perception Survey, ranks misinformation and disinformation among the top 10 risks, with easy-to-use interfaces of large-scale AI models enabling a boom in false information and "synthetic" content - from sophisticated voice cloning to fake websites.
- AI can be used to inundate voters with highly personalised propaganda on a scale that could make the Cambridge Analytica scandal appear microscopic, as the persuasive ability of AI models would be far superior to the bots and automated social media accounts that are now baseline tools for spreading disinformation.
- The risks are compounded by social media companies such as Facebook and Twitter significantly cutting their fact-checking and election integrity teams.

- **Inaccuracies and Unreliability:**

- AI models, including AGI, are not infallible and can produce inaccuracies and inconsistencies.
- There has been public wrath worldwide over Google AI models, including in India, for their portrayal of persons and personalities in a malefic manner, mistakenly or otherwise. These reflect well the dangers of 'runaway' AI.
- Inconsistencies and undependability stalk many AI models and pose inherent dangers to society. As its potential and usage increases in geometric proportion, threat levels are bound to go up.

- **Ethical Concerns:**

- The use of AI in elections raises ethical questions about privacy, transparency, and fairness.
- AI algorithms may inadvertently perpetuate biases present in training data, leading to unfair treatment or discrimination against certain groups of voters.
- Moreover, the lack of transparency in AI decision-making processes can erode public trust and confidence in electoral outcomes.
- Parties having better resources can have better utilisation of AI in comparison to the small and regional parties with lesser resources, which may disrupt the level playing field in the elections.

- **Regulatory Challenges:**

- Regulating the use of AI in electoral campaigns presents significant challenges due to the rapid pace of technological advancements and the global nature of online platforms.

- Governments and election authorities struggle to keep pace with evolving AI techniques and may lack the necessary expertise to effectively regulate AI-driven electoral activities.
- The primary statutes that could potentially trigger if fake news is spread using deepfakes are, The India Penal Code, 1860 (or the Bharatiya Nyaya Sanhita, 2023 in due course) Information Technology Act, 2000; and the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.
- However, there doesn't exist a specific law that addresses just AI and deepfake technology and targeting the individual who creates it.

- **How to Deal With the Impacts of AI on Elections?**

- **Issuing MCC-like Guidelines to Address the Misuse of AI:**

- The menace of misinformation has existed for a longer period, and the advent of AI technology has turbocharged the spread of fake news.
- In the context of Lok Sabha elections 2024, one possible solution to AI-fueled misinformation would be guidelines issued by the Election Commission of India.
- There is a need to Implement regulations that require transparency in the use of AI algorithms for political purposes.
- This includes disclosing sources of funding for political advertisements and requiring platforms to disclose how algorithms determine the content users see.

- **Education and Media Literacy:**

- Invest in educational programs to teach citizens how to critically evaluate information online and identify disinformation and deep fakes.
- Promote media literacy to help voters distinguish between credible and unreliable sources of information.

- **Enhanced Fact-Checking:**

- Establishing a Rapid Response Team to address the dissemination of fake news, deep fakes, and other forms of misinformation during elections is crucial.
- While it's inevitable that fake videos and misinformation will arise, the key lies in swiftly addressing them before they escalate and spread widely.
- Strengthen fact-checking efforts by providing resources to independent organisations and journalists to verify the accuracy of information circulating online.
- Develop AI-powered tools to identify and flag misleading content.

- **Counter-Narratives and Debunking Campaigns:**

- Launch public awareness campaigns that debunk false information and provide accurate counter-narratives.

- Utilise AI to identify trending misinformation and target counter-messages effectively.

- **Ethical AI Development:**

- Encourage the development of AI technologies with ethical considerations in mind, such as minimising bias, protecting privacy, and promoting transparency.
- Establish standards and guidelines for the responsible use of AI in political contexts.

- **International Cooperation:**

- Foster collaboration between governments, tech companies, and international organisations to address the global challenges posed by AI-driven disinformation campaigns. Share best practices and coordinate efforts to combat election interference across borders.

- **What are India's Initiatives Related to Artificial Intelligence?**

- INDIAai.
- Global Partnership on Artificial Intelligence (GPAI).
- US India Artificial Intelligence Initiative.
- Responsible Artificial Intelligence (AI) for Youth.
- Artificial Intelligence Research, Analytics and Knowledge Assimilation Platform.
- Artificial Intelligence Mission.

- **Conclusion:**

- Elections apart, India being one of the most advanced countries in the digital arena, again needs to treat AI as an unproven entity.
- While AI brings benefits, the nation and its leaders should be fully aware of its disruptive potential.
- This is especially true of AGI, and they should act with due caution. India's lead in digital public goods could be both a benefit as well as a bane, given that while AGI provides many benefits, it can be malefic as well.

*Source → The Hindu*

# 3 - India Leads Global Arms Imports Amid Shifting Dynamics:

# GS II

# International issues

- **Context:**

- The latest data on international arms transfers from Stockholm International Peace Research Institute (SIPRI), India emerged as the leading arms importer globally during the period from 2019 to 2023.

- During this timeframe, India's imports increased by 4.7% when compared to the period from 2014 to 2018.

- **What are the Key Highlights of Recent SIPRI Data?**

- Arms Importers: Nine of the 10 biggest arms importers in 2019–23, including the top 3 of India, Saudi Arabia and Qatar, were in Asia and Oceania or the Middle East.
- Notably, Ukraine also rose as the 4th-largest arms importer globally during this period.
- Arms Exporters: The United States, the largest arms supplier globally, witnessed a 17% growth in arms exports between the periods 2014 –18 and 2019–23.
- Concurrently, France ascended to become the world's second-largest arms supplier.
- Europe accounted for a third of global arms exports, with a strong military-industrial capacity.
- In contrast, Russia experienced a significant decline of more than half, with a decrease of -53%
- India's Arms Import Dynamics: Although Russia remained India's primary arms supplier, accounting for 36% of its arms imports, this marked the first five-year period since 1960-64 where Russian deliveries made up less than half of India's total arms imports.
- India is now increasingly turning to Western countries like France and the USA, as well as boosting its domestic arms industry, to meet its growing defence needs.

- **What is SIPRI?**

- It is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.
- It was established in 1966 in Stockholm (Sweden).
- It provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

- **What are the Recent Indian Government Initiatives to Reduce Arms Imports?**

- About: The Indian Defence sector, the second largest armed force is at the cusp of revolution.
- In the Interim Budget 2024-25, the Defense Ministry received a total allocation of ₹6.2 lakh crore.
- Within this allocation, ₹1.72 lakh crore was designated for capital expenditure, specifically for new procurements.
- This capital allocation reflected a 5.78% increase compared to the Budget Estimates from 2023-24.

- **Initiatives:**

- Positive Indigenisation Lists: The government releases Positive Indigenisation Lists to identify specific components and subsystems that must be manufactured domestically.
- The Department of Military Affairs has recently released the 5th Positive Indigenisation List, which includes 98 items, further bolstering indigenous manufacturing in the defence sector.
- Increased FDI Limits in the Defence Sector: It has been increased in 2020 to 74% through the Automatic Route and up to 100% via the Government Route.
- Defence Industrial Corridors: Two dedicated Defence Industrial Corridors have been established in Tamil Nadu and Uttar Pradesh to boost defence manufacturing.
- The Uttar Pradesh corridor encompasses nodes in Agra, Aligarh, Chitrakoot, Jhansi, Kanpur, and Lucknow.
- The Tamil Nadu corridor includes nodes in Chennai, Coimbatore, Hosur, Salem, and Tiruchirappalli.
- Innovations for Defence Excellence (idEX): iDEX aims to create an ecosystem for innovation and technology development in Defence and Aerospace.
- It engages various stakeholders such as industries, MSMEs, startups, innovators, R&D institutes, and academia, providing them grants, funding, and support for R&D with potential for Indian defence and aerospace needs.
- The initiative is funded and managed by the Defence Innovation Organization (DIO), established as a not-for-profit company under the Companies Act 2013.
- SRIJAN Portal: It is a one-stop shop for vendors to find opportunities to manufacture defence equipment that was previously imported.
- Defence Public Sector Undertakings (DPSUs) and other government agencies can use SRIJAN to post details about specific items they want indigenized.
- This allows Indian companies to express their interest and collaborate on production.

- **Way Forward:**

- Defence Innovation Zones: Designating specific geographical areas as defence innovation zones, offering infrastructure support, and regulatory flexibility to attract defence startups and high-tech companies.

- Streamlined Procurement Process: Simplifying and expediting the procurement process for indigenous defence products to encourage domestic production.
- Implementing transparent and efficient procurement policies that prioritise locally manufactured goods.
- Incentivize Indigenous Production: Providing financial incentives, tax benefits, and subsidies for companies engaged in indigenous defence manufacturing. Create a conducive ecosystem for defence startups and small-scale enterprises to thrive.
- Boosting Exports: Building a strong defence export industry that can generate revenue to support further R&D and reduce reliance on solely domestic budgets, similar to Israel's model.

*Source → The Hindu*

# 4 – Hepatitis B:

# GS II

# Health related issues

- **Context:**

- A recent study by Sir Ganga Ram Hospital, New Delhi, indicates that public awareness and knowledge regarding Hepatitis B, a potentially fatal disease leading to liver cirrhosis and cancer, is insufficient in India.

- **What is Hepatitis?**

- **About:**

- Hepatitis is the inflammation of the liver, characterised by irritation or swelling of the liver cells due to various causes.
- Liver inflammation can manifest as either acute, characterised by symptoms like jaundice, fever, and vomiting, or chronic, lasting over six months with no apparent symptoms.

- **Symptoms:**

- Some individuals infected with hepatitis may not exhibit symptoms, but common ones include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-coloured bowel movements, joint pain, and jaundice.

- **Causes:**

- Hepatitis is typically caused by hepatotropic viruses, including A, B, C, D, and E, although other viruses like the varicella virus can also lead to the disease.
- SARS-CoV-2, the virus causing Covid-19 may injure the liver too.
- Additional causes encompass drug and alcohol misuse, liver fat accumulation (fatty liver hepatitis), or an autoimmune response where the body produces antibodies targeting the liver (autoimmune hepatitis).

- **Types of Hepatitis:**

- **Hepatitis A virus (HAV):**

- Hepatitis A is a liver inflammation that ranges from mild to severe, transmitted through contaminated food or water, direct contact with an infected person, and can be prevented with a vaccine, with most people recovering fully and gaining lifelong immunity.

- **Hepatitis B virus (HBV):**

- Hepatitis B is a viral infection that can cause acute or chronic liver disease, often transmitted from mother to child, through early childhood contact, or via sex or unsafe injections, but can be prevented by vaccines.
- Hepatitis B vaccines are highly efficacious in preventing HBV infection when administered before exposure to HBV.

- **Hepatitis C virus (HCV):**

- Hepatitis C is a bloodborne virus causing both acute and chronic hepatitis, with severity ranging from mild to serious, including liver cirrhosis and cancer, primarily transmitted through unsafe health care, blood transfusions, injection drug use, and sexual practices.
- The cure rates exceeds 95% using Direct-acting antiviral medicines (DAAs), yet access to diagnosis and treatment is limited, and no effective vaccine exists.

- **Hepatitis D virus (HDV):**

- Hepatitis D, a virus dependent on hepatitis B virus (HBV) for replication, affects approximately 5% of individuals with chronic HBV infection worldwide, with co-infection or super-infection more prevalent among indigenous populations, dialysis patients, and drug users, posing a severe risk to liver health including the potential for cancer or fatality.
- Its prevention is possible through hepatitis B immunization, treatment efficacy remains limited.

- **Hepatitis E virus (HEV):**

- Hepatitis E, caused by HEV infection, is globally prevalent, particularly in East and South Asia, transmitted through contaminated water, with a licensed vaccine in China and some other countries and ongoing research for additional vaccines worldwide.

- **Government Initiatives to Tackle Hepatitis:**

- National Viral Hepatitis Control Program: The National Viral Hepatitis Control Program aims to eliminate viral hepatitis as a public health threat in the country by 2030.
- India's Universal Immunization Programme (UIP): India's Universal Immunization Programme (UIP) offers free vaccination against eleven vaccine-preventable diseases, including Hepatitis B, Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Pneumonia, Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE), and Rotavirus diarrhoea.
- **Global Initiatives:**

- WHO's global hepatitis strategy
- Coalition for Global Hepatitis Elimination (CGHE)
- Global Hepatitis Programme

- **What are the Recommendations Made by the Survey?**

- As per the survey, only 22.7% of participants had completed the full Hepatitis B vaccination course.
- Therefore it recommends, ensuring accessibility and reaching all segments of the population, especially those at high risk, is crucial for effective vaccination against HBV, alongside increasing overall vaccination efforts.
- The survey finds that only a quarter of those surveyed had sufficient understanding of the disease, encompassing its transmission, impact on the liver, and the crucial role of vaccination.
- Therefore to deal with widespread misconceptions and insufficient education on Hepatitis B the need for targeted information campaigns to address knowledge gaps is the way out.
- For this, people should be educated on the necessity of completing the entire vaccination regimen for optimal effectiveness, as it is not uncommon for individuals to miss the final dose after receiving one or two doses.
- It recommends educational campaigns should target the general public, especially women, older individuals, those with lower education levels, and rural residents, who showed lower knowledge scores and vaccination rates in the study.
- It concludes that comprehensive strategies, which integrate health literacy and vaccination coverage, are crucial for achieving national and global HBV control targets.

*Source → The Hindu*