AMR could Cause 10 Million Deaths: UN

UN Interagency Coordinating Group has released a report titled "**NO TIME TO WAIT: Securing The Future From Drug-resistant Infections**".

- The Report says that drug-resistant diseases could cause **10 million deaths each year by 2050.**

Key Highlights

- **Antimicrobial resistance** is a **global crisis** that **threatens** a century of progress in the health and achievement of the **Sustainable Development Goals.**
  - Antimicrobial resistance poses a **formidable challenge to achieving Universal Health Coverage** and **threatens progress against many of the Sustainable Development Goals,** including in health, food security, clean water and sanitation, responsible consumption and production, and poverty and inequality.
  - **Misuse and overuse of existing antimicrobials in humans, animals, and plants** are accelerating the development and spread of antimicrobial resistance.
- The world has to act **urgently**. If timely actions are not taken antimicrobial resistance will have a disastrous impact within a generation.
  - Currently, at least **7,00,000 people die each year due to drug-resistant diseases,** including 2,30,000 people who die from multidrug-resistant tuberculosis.
  - By 2030 antimicrobial resistance could **force up to 24 million people into extreme poverty.**
  - Without investment from countries in all income brackets, **future generations will face the disastrous impacts of uncontrolled antimicrobial resistance.**
- The drivers of antimicrobial resistance lie in humans, animals, plants, food and the environment. Thus a sustained **One Health response is essential to engage and unite all stakeholders around a shared vision and goals.**
  - **The countries should prioritize national action plans to scale-up financing and capacity-building efforts,** put in place stronger regulatory systems and support awareness programs for responsible use of antimicrobials by professionals.
  - It is also necessary to invest in research and development for new technologies to combat antimicrobial resistance.

UN Interagency Coordination Group (IACG) on Antimicrobial Resistance

- **IACG was established in 2016** in consultation with the **World Health Organization (WHO), the Food and Agriculture Organization (FAO), and the World Organisation for Animal Health (OIE).**
- The IACG's mandate is to **provide practical guidance for approaches needed** to ensure sustained effective global action **to address antimicrobial resistance.**

Summary of IACG Recommendations

- **Accelerate Progress In Countries**
  - **Equitable and affordable access** to existing and new quality-assured antimicrobials in

member states
    - Accelerate the **development and implementation of One Health National Antimicrobial Resistance Action Plan** within the context of the SDGs.
- **Innovate To Secure The Future**
    - **Public, private and philanthropic donors and other funders should increase investment** and innovation in quality-assured, new antimicrobials.
    - Equitable and affordable access to existing and new, quality-assured antimicrobials should be promoted.
- **Collaborate For More Effective Action**
    - Systematic and meaningful **engagement of civil society groups and organizations** is necessary for the One Health response to antimicrobial resistance.
- **Invest For A Sustainable Response**
    - The **IACG emphasizes the need for increased investments in the response to antimicrobial resistance,** including from **domestic financing** in all countries; bilateral and **multilateral financing**; **development institutions** and **banks**; and **private investors**.
- **Strengthen Accountability And Global Governance**
    - There is a need for the **urgent establishment of a One Health Global Leadership Group on Antimicrobial Resistance,** supported by a Joint Secretariat managed by the Tripartite agencies (FAO, OIE, and WHO).
    - There is a need to convene an **Independent Panel on Evidence for Action against Antimicrobial Resistance** to monitor and provide the Member States with regular reports on the science and evidence related to antimicrobial resistance.

Country-by-Country Reports Agreement

India has notified the inter-governmental agreement with the US for exchange of country-by-country (CbC) reports on multinational companies regarding income allocation and taxes paid in order to help check cross-border tax evasion.

- This agreement will enable both the **countries to automatically exchange CbC reports filed by the ultimate parent entities of multinational enterprises (MNEs) in the respective jurisdictions** to the financial years commencing on or after January 1, 2016.
- That is, the Companies headquartered in the US but having operations and taxability in India **now need not file country-by-country (CbC) reports in India.**
    - For such international companies, **filing CbC reports in the US would be sufficient.**
- This will **reduce the compliance burden** on their subsidiaries operating out of these countries.

Background

- The Income-tax Act requires Indian subsidiaries of **multinational companies to provide details of key financial statements** from other jurisdictions where they operate.
- This provides the I-T Department with a better operational view of such companies, primarily with regards to revenue and income tax paid.
- The provision was a **part of the Base Erosion and Profit Shifting (BEPS)** action plan and later incorporated in the I-T Act also.

Base Erosion and Profit Shifting (BEPS)

- BEPS is a term used to describe **tax planning strategies** that **exploit mismatches** and **gaps that exist between the tax rules of different jurisdictions.**
- It is done to **minimize the corporation tax** that is payable overall, by either making tax profits ‘disappear’ or **shift profits to low tax jurisdictions where it is little or no genuine activity.**

- In general BEPS strategies are **not illegal; rather they take advantage of different tax rules operating in different jurisdictions.**
- BEPS is of major significance for developing countries due to their heavy reliance on corporate income tax, particularly from multinational enterprises (MNEs).
- The BEPS initiative is an OECD initiative, approved by the G20, to identify ways of providing more standardised tax rules globally.

Climate-Resistant Chickpea Varieties

An international team led by the **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** has discovered important factors for **heat and drought tolerance in chickpea.**

- The study has identified **four important genes for heat tolerance** and **three important genes for drought tolerance.**
- The study was based on **complete genome sequencing of 429 chickpea lines from 45 countries.**
    - By using such genomics-assisted breeding approach, the **time taken to produce a new heat- and drought-tolerant** chickpea variety can be **halved from about eight to four years.**
- The study has found that chickpea **originated in the Mediterranean/south-west Asia** and migrated to south Asia.
    - It reached India about two centuries ago, **apparently through Afghanistan.**
- The study provides insights into **chickpea's genetic diversity, domestication too.**

Advantages

- World is already witnessing **increase in temperature because of climate change.** So a new variety with heat and drought tolerance will be **highly useful to Indian farmers.**
- In India, chickpea is **generally sown in September-October and harvested in January-February.**
    - When heat-tolerant chickpeas are developed in future, farmers in India may have a **possibility to go in for a second round of cropping.**
    - Though the yield will be less for the second crop, **farmers will still stand to gain.**

Chickpea

- Chickpea grain is an **excellent source of high-quality protein**, with a wide range of essential amino acids , but low in fat. The crop also **fixes relatively large amounts of atmospheric nitrogen.**
- More than 90% of chickpea cultivation area is in **South Asia, including India**.
    - India is by far the **world largest producer but is also the largest importer.**
- Chickpeas are susceptible to several major diseases and insect pests and yields can fall precipitously if the crop is **exposed to extreme temperatures or drought.**
    - Globally, **more than 70% yield is lost** due to drought and increasing temperatures.
- Chickpea is a winter season crop, so in general any further increase in temperature is expected to **further reduce the yield.**

International Crops Research Institute for the Semi-Arid Tropics

- The **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** is a non-

profit, non-political organization that conducts agricultural research for development in the **drylands of Asia and sub-Saharan Africa.**

- It was **founded in 1972** and is headquartered in **Hyderabad, Telangana State, in India,** with **two regional hubs (Nairobi, Kenya and Bamako, Mali).**
- ICRISAT conducts research on **six highly nutritious drought-tolerant crops,** also known as **Smart Food: Chickpea, Pigeonpea, Pearl Millet, Finger Millet, Sorghum, and Groundnut.**
    - Smart Food is food that is define as **good for consumer, the planet and the farmer,** and is one of the solutions that contributes to addressing all these **issues in unison.**

Emergency Financial Powers

- The Army is in the process of procuring the equipment through a set of new financial powers for emergency procurements sanctioned by the Defence Ministry.
- Under emergency financial powers, armed forces have been given a free hand to procure equipment worth up to ₹300 crore on a priority basis.
- The two types of equipment are:
    - Spike-LR Anti-Tank Missiles
    - Igla-S Very Short Range Air Defence Systems

Spike-LR

- It is an Anti-Tank Missiles developed by Israel.
- It is a portable anti-armor weapon system with a range of up to 4km, which can be operated in fire-and-forget mode and in the fire, observe and update mode using the fiber-optic data link.
- The systems are used by infantry soldiers, special rapid reaction forces, ground forces, and helicopter aircrew.
- The Spike system can work in non-line-of-sight (NLOS) mode allowing the gunner to operate from a covered position.

Igla-S

- It is Very Short Range Air Defence Systems developed by Russia.
- Russian made Igla-S air defense systems with man-portable systems will be replacing its predecessor Igla-M which has been with India armed forces from the early ’80s.
- Russian-made 9K338 Igla-S man-portable air-defense systems (MANPADS), also known as the SA-24 was recently replaced by the fourth generation 9K333 Verba man-portable infrared homing surface-to-air missile in Russia but India decided to go with an older system even when Russians were perfectly ok to supply India with the latest Verba system.
- Engagement altitude is 10 to 3500 metre.
- Max engagement range is 6000 meter.
- Weight of combat assets, not more than 19 kg.

MANPADS

- Man-portable air-defense systems surface to air missile.
- Lightweight enough to lift by a single person.
- The system consists of a missile in a disposable tube, a grip stock, and a battery to charge the missile.

Important Facts For Prelims (30th April 2019)

Bodhisattva Figure Unearthed //

- Recently, a 1.74-meter **Bodhisattva** figure was unearthed from Phanigiri in Telangana.
- It is life size stucco Bodhisattva figure, which was created by craftsmen at **Phanigiri** at the peak of **Ikshvaku dynasty** rule, nearly 1700 year ago.

Bodhisattva

- A person who has **attained prajna, or Enlightenment,** but who **postpones Nirvana** in order to help others to attain Enlightenment. Individual Bodhisattvas are the subjects of devotion in certain sects and are often represented in painting and sculpture.

Phanigiri

- It is a **Buddhist site in Suryapet district, Telangana.** It dates back to the 1st Century before common era(BCE), The place consists of a Buddhist complex which is adorned with a massive stupa along with two apsidal halls with stupas in it.

Ikshvaku dynasty

- The dynasty ruled in the eastern Krishna River valley of India, from their capital at Vijayapuri(modern Nagarjunakonda in Andhra Pradesh) during approximately 3rd and 4th centuries CE. The Ikshvakus are also known as the **Andhra Ikshvakus or Ikshvakus of Vijayapuri** to distinguish them from their legendary namesakes.
- The Ikshvaku kings were Shaivites and performed Vedic rites, but Buddhism also flourished during their reign. Several Ikshvaku queens and princes contributed to the construction of the Buddhist monuments at present-day Nagarjunakonda.

Loya Jirga

- Politicians and officials from across Afghanistan have gathered in Kabul to discuss the war and U.S. efforts to forge a peace deal with the Taliban.
- The meeting is being termed as **‘Loya Jirga’— literally “grand assembly” in Pashto**. It is the **largest such assembly in modern Afghan history.**
- The four-day gathering has about **3200 representatives from every district in Afghanistan.**
- According to the afghan constitution, **Loya jirgas decision can take precedence over all state institutions, including the presidency.**
- Loya jirgas have traditionally been a **forum to discuss and reach a consensus on important political issues among Afghanistan's various ethnic groups, tribes, and factions.**
- The notion of the Loya jirga dates from **977 A.D**. when a jirga in southeastern Ghazni province chose the freed Tatar slave Naziruddin to head the Ghaznavid Empire.

Goldman Environmental Prize

- An environmental lawyer and activist from Liberia, **Alfred Brownell** was among the six activists to

be awarded **Goldman Environmental Prize.**
    - He **prevented** a company from **converting tropical rainforest into palm oil plantations.**
- The **other five winners** are:
    - **Linda Garcia** of Vancouver, Washington, who successfully prevented the **construction of North America's largest oil terminal.**
    - **Ana Colovic Lesoska** of North Macedonia, whose helped **stop hydroelectric projects** from being built in the country's largest national park.
    - **Bayarjargal Agvaantseren** of Mongolia, who led the fight to **create the Tost Tosonbumba Nature Reserve.**
    - **Jacqueline Evans** of the Cook Islands, whose work led to the conservation and sustainable management of all of the **Cook Islands' ocean territory and creation of 15 marine protected areas.**
    - **Alberto Curamil** of Chile, a jailed indigenous activist who had protested several **hydroelectric projects in the country.**
- The Goldman Environmental Prize environmental recognizes and honors **grassroots individuals** for sustained and significant efforts to protect and enhance the natural environment, often at great personal risk.
- The **prize was created in 1989 by philanthropists Richard and Rhoda Goldman.**
- Winners are selected from nominations made by environmental organisations and others. The prize **carries a $200,000 award.**
- In addition to a monetary prize, Goldman Prize winners each receive a **bronze sculpture called the Ouroboros.**
    - Common to many cultures around the world, **the Ouroboros**, which depicts a **serpent biting its tail,** is a symbol of **nature's power of renewal.**

Committee on National Clean Air Programme

- The Union Environment Ministry has **constituted a committee to implement the National Clean Air Programme (NCAP)**, which aims to reduce particulate matter (PM) pollution by 20%-30% in at least 102 cities by 2024.
- The committee will be **chaired by the Secretary, Union Environment Ministry** and has members from **Ministry of Power, the Energy Resources Institute (TERI), and Indian Institute of Technology-Kanpur (IIT-K).**
- The committee would be **headquartered in New Delhi** and would give overall guidance and directions to effectively implement the NCAP.
- The NCAP was **unveiled in January, 2019** is envisaged as a scheme to provide the States and the Centre with a framework to combat air pollution.
    - The NCAP is envisioned as a five-year action plan with 2019 as the first year. There would be a **review every five years.**
- The **World Health Organisation's (WHO) database** on air pollution over the years has listed Tier I and Tier II Indian cities as some of the most polluted places in the world.
    - **In 2018, 14 of the world's 15 most polluted cities were in India.**
