



Daily Current Affairs Dated On 21-Aug-2019

GS-1

Punjab flood

As Punjab grapples with floods, which Chief Minister Amarinder Singh termed as “unprecedented”, the blame is more on the rainfall in catchment area of Sutlej river in Himachal Pradesh, than on rain back home. Kanchan Vasdev explains why:

Which are the districts that witnessed the fury of floods in Punjab this time?

- Several villages in six districts including Patiala, Sangrur, Moga, Ropar, Jalandhar and Ferozepur were inundated.
- Mostly the districts lining the Satluj river in Malwa and Doaba regions of the state were affected due to overflowing of river in some areas and breaches in the bandh on the river in others.

Is heavy rain alone to be blamed for floods?

- Punjab experienced just 5 per cent more rain than last year as of August 20. Last year the state had witnessed 343.2 cm rainfall while this year it has been 357.3 cm.
- The districts that experienced heavy rainfall — between 15 to 20 cm — this year include Gurdaspur, Nawanshahar, Hoshiarpur, Jalandhar, Pathankot, Ludhiana, Patiala and Fatehgarh Sahib.
- Rest of the districts experienced a moderate rainfall ranging between 4-8 cms.
- Irrigation department says more than the rain in the state, it is the rainfall in the catchment area of Satluj river in Himachal Pradesh that was responsible for the floods.



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How did the rain in Himachal Pradesh cause floods in Punjab?

- Bhakra dam, built on Satluj, is filled to the brim a month before the reservoir's filling season comes to an end. The dam's filling season lasts till September 22.
- But it crossed its permissible storage level of 1,680 feet on August 19 and reached 1,682 feet despite the Bhakra Beas Management Board (BBMB) opening the spillways by upto eight feet and releasing water in the Satluj river.
- The swelling of Satluj due to opening of spillways caused floods.
- The inflow in the reservoir was recorded at 1.30 lakh cusecs (cubic metres per second) on August 19.
- The rain stopped in the catchment area on August 19 and the inflow has come down to 50,000 cusecs while the outflow through turbines and floodgates collectively amounted to a release of 76,000 cusecs.

What is the carrying capacity of Satluj river?

- Satluj can safely handle 2.5 lakh cusecs but can carry up to 4 lakh cusecs of water.
- Irrigation experts say that opening of floodgates, coupled with silting of river, and poor maintenance of bandhs caused the breaches and overflowing of the river thereby leaving several parts inundated.
- The heavy silting in the river was caused by the state not issuing contracts for mining in the entire last fiscal year.
- Experts say the sand kept accumulating but it could not be mined thereby reducing the carrying capacity of the river.
- Also, the encroachments in the natural drains and channels are to be blamed for poor drainage.

Is the threat over?

- The IMD has forecast another spell of rain in catchment area on August 24, 25 and 26.
- With water level in Bhakra dam already at its highest point of permissible level and inflow still continuing, the threat is still there.
- The BBMB, in a meeting with three states including Punjab, Haryana and Rajasthan on Tuesday, decided to keep the level at 1680 feet by continuously releasing water through floodgates.



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- The BBMB had on its own reduced the permissible limit at 1680 feet, bringing it down by five feet from 1685 feet in 1988 when Punjab had experienced worst floods.

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XDR TB

Why in news?

In a groundbreaking development recently, the United States Food and Drug Administration approved a three-drug regimen against the most lethal form of multi-drug-resistant tuberculosis, known as the XDR (extensively drug-resistant) strain.

About XDR TB

- Essentially, this strain of TB is resistant to some of the most potent anti-TB drugs, making it difficult for patients suffering from this strain to be cured.
- A trial in the US, which enrolled 109 patients with the XDR strain, was able to cure 90 per cent of them.

- Cases of XDR TB are much fewer than those of the other drug-resistant strain, MDR/RR TB, and have been reported from 117 countries until 2017, a World Health Organization (WHO) report said. Out of 10,800 cases worldwide, India accounted for 2,650 cases, or almost one-fourth.
- As per WHO, two-thirds of cases of the XDR-strain are in China, India and Russia.
- These countries also share 47 per cent of the burden for MDR/RR TB.
- The average success rates for drugs to treat the XDR strain has been 34 percent globally.

Risk of transmission

- WHO explains that XDR can be contracted in two ways.
- It may develop in a patient who is already receiving treatment for TB and misuses the anti-TB drugs, or it can be contracted from a person who already has the disease.
- The risk of transmission for XDR remains the same as the risk of transmission of other strains of TB. Often, XDR TB may go undiagnosed since lower-middle-income countries lack the infrastructure to detect it.
- Worldwide, TB has surpassed HIV-AIDS as the leading cause of death due to infectious diseases.



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- In 2017, over 13 lakh people died of the disease.

Nicotine notified as poison:

Why in news?

To strengthen enforcement of the ban on production and sale of electronic cigarettes, the State government has amended the Karnataka Poisons (Possession and Sale) Rules 2015, notifying nicotine as Class A poison under the rules.

Background

- Highly toxic chemicals, which even in very small quantities as gas or vapour in the air are dangerous to life (such as cyanogen, hydrocyanic acid, nitrogen peroxide, and phosgene), are notified under Class A.
- Electronic cigarettes are small battery-operated devices that vapourise liquid nicotine to provide the same experience as smoking tobacco.

- Although the Karnataka government had banned the sale and production of e-cigarettes in June 2016, illegal sale and smuggling of nicotine cartridges and e-cigarettes are rampant in the State.
- They are often marketed as a way to cut down or cut out cigarette smoking altogether, and sold as aids to quit smoking.

Expert study

- The ban was imposed after a study by the State Health Department and experts that showed that e-cigarettes encourage the younger generation to use conventional cigarettes.
- While use of two milligrams of nicotine is permitted only in chewable chocolates to help with de-addiction, e-cigarette manufacturers misuse this clause for their sale.
- The ban — invoking sections of Drugs and Cosmetics Act and Food Safety Act — also ordered the suspension of all kinds of promotion of e-cigarettes, including online promotion.



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Use of nicotine

- Nicotine is used as a direct substance in e-cigarettes and the content ranges up to 36 mg/mL. Although regular cigarettes too have nicotine, it is in the range of 1.2 to 1.4 mg/ml..

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Cyber attacks in India

About 26% of these overall attacks cost organisations in the country upwards of \$5 million each.

Salient points

- Banking and finance, government and critical infrastructure were among the most targeted sectors in India by cybercriminals in 2018-19, according to tech major Cisco.
- Also, about 26% of these overall attacks cost organisations in the country upwards of \$5 million each.
- The hackers are persistent, and their campaigns are very targeted.
- Sectors like banking and finance (20.1%), government (19.6%) and critical infrastructure (15.1%) were among those that continue to face the highest threat of cyberattacks.
- Cybercriminals are also increasingly targeting sectors like defence (15.1%), IT, telecom and healthcare.
- They are using a host of mechanisms like point of sale attacks to target sectors like retail, hospitality, entertainment and e-commerce.
- Ransomware are used to attack public sector entities, transportation as well as banking and finance verticals..

Cost of breach

- According to Asia-Pacific Security Capabilities Benchmark Study conducted by Cisco that found 21% respondents saying cost of breach for them was between \$5-9.9 million, while another 5% said it was more than \$10 million for them.
- The cost of breach included loss of revenue, customers, and other costs related to the event. About 27% said the cost of less than \$100,000 — an indication that while the amount involved may be small but the volume of such attacks is growing.



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Flyash

Why in news?

IIT Hyderabad scientists convert fly ash into waterproofing material.

Treating fly ash with stearic acid, used in soaps and shampoos, modified the nature of fly ash and helped develop materials with contrasting adhesion behaviours — high adhesions like a rose petal and low adhesion like a lotus leaf.

What is Fly Ash?

- Fly ash is a major source of PM 2.5 (fine, respirable pollution particles) in summer. It becomes air borne, and gets transported to a radius of 10 to 20 kms.
- It can settle on water and other surfaces.

Composition:

- Fly ash contains heavy metals from coal, a large amount of PM 2.5 and black carbon (BC).

Health and environmental hazards:

- Toxic heavy metals present: All the heavy metals found in fly ash nickel, cadmium, arsenic, chromium, lead, etc—are toxic in nature.
- They are minute, poisonous particles accumulate in the respiratory tract, and cause gradual poisoning .

Radiation:

- For an equal amount of electricity generated, fly ash contains a hundred times more radiation than nuclear waste secured via dry cask or water storage.



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Water pollution:

- The breaching of ash dykes and consequent ash spills occur frequently in India, polluting a large number of water bodies.

Effects on environment:

- The destruction of mangroves, drastic reduction in crop yields, and the pollution of groundwater in the Rann of Kutch from the ash sludge of adjoining Coal power plants has been well documented.

Draft National Resource Efficiency Policy Released

Context:

Ministry of Environment, Forest and Climate Change released Draft National Resource Efficiency Policy, 2019 on 25.07.2019 inviting comments and suggestions from stakeholders including public/private organizations, experts and concerned citizens on the draft policy.

Background

- Natural resources form the backbone of any economic development.
- India, as one of the fastest growing economies with GDP at 2.6 trillion USD, has increased its material consumption to six times, from 1.18 billion tonnes (BT) in 1970 to 7 BT in 2015.
- The material consumption is expected to increase further to provide for an increasing population, rapid urbanization and growing aspirations.
- Enhancing resource efficiency and promoting the use of secondary raw materials has emerged as a strategy for ensuring that the potential trade-off between growth, resource constraints and environmental well-being can be minimized.

Salient features of policy:

- The Draft National Resource Efficiency Policy (NREP) envisions a future with environmentally sustainable and equitable economic growth, resource security, healthy environment (air, water and land), and restored ecosystems with rich ecology and biodiversity.



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- The Draft National Resource Efficiency Policy is guided by the principles of
 - (i) reduction in primary resource consumption to 'sustainable' levels, in keeping with achieving the Sustainable Development Goals and staying within the planetary boundaries,
 - (ii) creation of higher value with less material through resource efficient and circular approaches,
 - (iii) waste minimization,
 - (iv) material security, and creation of employment opportunities and business models beneficial to the cause of environment protection and restoration.
- The Draft National Resource Efficiency Policy provides an overarching collaborative framework for resource efficiency across all sectors in the country, covering both biotic and abiotic resources and life cycle stages and aspires for cross-sectoral stakeholder partnerships for the cause of resource efficiency for sustainable development.