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### 1. Why is COP-28 summit focusing on health?

#### Why in news?

On December 3, for the first time in 28 years of climate change negotiations, the climate-health nexus will take centre stage at the United Nations Conference of Parties (COP-28) summit in the UAE. Unabated greenhouse gas emissions are triggering extreme weather events, air pollution, food insecurity, water scarcity and population displacement, which in turn, are altering the trajectory of vector-borne diseases. And Africa, Asia, South and Central America, and small island states, which have contributed the least to climate change, are bearing the brunt. Addressing these issues, on December 2, 123 governments endorsed the COP-28 Declaration on Climate and Health.

#### Why is there a 'Health Day' at the summit?

The 'groundbreaking Health Day at COP-28', as COP-28 president Sultan Ahmed Al Jaber put it, is expected to pose two questions: how public health can become resilient to climate change, and who will finance this transformation. Health is not a stranger to climate change talks. The United Nations Framework Convention on Climate Change (UNFCCC) recognises the health impacts of climate change. Health events have been held at COP for several years, including at the WHO Health Pavilion, but this is the first time there has been an official 'Health Day'. This is also the first time there will be a health inter-ministerial meeting, with ministers of health, environment, finance and other types of ministries joining in.

#### What can we expect from the Health talks?

The COP-28 UAE Declaration on Climate and Health includes dialogue on mitigating emissions, health sector adaptation to climate change, mainstreaming of health into climate policies and the sticky question of climate financing for health.

The Declaration, however, doesn't mention fossil fuels. It recognises the need for climate mitigation, "strengthening research on the linkages between environmental and climatic factors and antimicrobial resistance"; and "intensifying efforts for the early detection of zoonotic spill-overs" to prevent future pandemics.

It does not mention pollution-related harms or identify 'fossil fuels' — coal, oil and gas — as a driver of health threats, or emphasise the need to end fossil fuel dependence.

Fossil fuels are seen as the largest contributor to global climate change. If we move from fossil fuels to renewable energy, for instance, we reduce preventable deaths of air pollution as well as reduce the risk of dangerous climate change.

### **Where does India stand?**

In India, particulate air pollution is said to be the “greatest threat to human health”, and heat-related deaths may kill an additional 10 lakh people annually by 2090, according to data. India scored 2/15 points in the 2023 GCHA (Global Climate and Health Alliance) scorecard that assessed India’s inclusion of clean air in its national climate commitments.

### **About Global Climate and Health Alliance**

The Global Climate and Health Alliance is an organisation which was formed in Durban (South Africa) in 2011 to tackle climate change and to protect and promote public health.

The Alliance is made up of health and development organizations from around the world united by a shared vision of an equitable, sustainable future.

Specifically, Alliance members work together to:

1. Ensure that health impacts are integrated into global, regional, national and local policy responses to climate change so as to reduce them as far as possible, with a particular focus on reducing health inequalities through mitigation and adaptation;
2. Encourage and support the health sector to lead by example, in mitigating and adapting to climate change;
3. Raise awareness of the health threats posed by climate change and the potential health benefits of well-chosen climate mitigation policies in areas such as energy, transport, food and housing.

The Alliance does this through:

1. Providing leadership
2. Advocating for health and climate
3. Policy and research
4. Engaging and informing

The Alliance was launched following the inaugural Climate and Health summit, which took place in 2011 during the 17th Conference of the Parties (COP17) to the United Nations Framework Convention on Climate Change (UNFCCC).

Relevance: GS Prelims & Mains Paper III; Environment

Source: The Indian Express

## 2. Kerala transport body has challenged Centre's new permit rules for tourist vehicles

The state-owned Kerala State Road Transport Corporation (KSRTC) has moved the High Court, challenging the legal validity of the Centre's All India Tourist Vehicles (Permit) Rules, 2023, which came into effect from May this year. On November 29, the Kerala State Transport Authority cancelled an All-India Tourist Permit (AITP) invoking powers vested with it under the Motor Vehicle Act, 1988.

Here is a look at how a new permit rule under the Union law could change the transport industry, and why Kerala is opposing it.

### **Contract carriage and stage carriage**

In Kerala, bus permits are granted by the respective Regional Transport Authorities in various districts, under Section 72 of the Motor Vehicles Act, 1988. The Act provides for two types of permits for buses — contract carriage and stage carriage.

A contract carriage is a vehicle/bus hired by a passenger or groups of passengers to go from one point to another, regardless of the route, and without stopping to pick up or drop off passengers along the way. Tourist buses in Kerala mainly operate under this permit.

On the other hand, a stage carriage bus runs on a specific route with the fare fixed by the government. A stage carriage runs as a regular bus service, where the entire route is broken into various specified stages till the destination point. KSRTC comes under the state carriage category.

### **All India Tourist Permit**

The central government earlier this year framed the All India Tourist Vehicles (Permit) Rules, 2023. This all-India permit enables a tourist vehicle operator to ply throughout the country on the strength of a permit fee paid under Rule 5. This fee would be distributed among the states and the Union Government under a sharing formula.

Kerala is opposed to this All-India permit, though it is also a beneficiary of this fee-sharing formula.

Earlier, tourist bus permits under Motor Vehicles (All India Permit for Tourist Transport Operators) Rules, 1993. The 2023 Rules have simplified the granting of the permit, and by obtaining a permit from one state, the operator can use their vehicle throughout India.

### **The issue**

As per the rule 6 (2) of permit regulations 2023, an operator with AITP can enter into individual contracts with passengers and therefore can pick and drop them at different points en route. This in a way allows a tourist permit holder to operate like a stage carriage, whereas in Kerala, tourist vehicles operate as contract carriages. The changed system can eat into the revenue of state carriages.

### **Kerala's arguments**

The state government has challenged the rules that allow a tourist vehicle to work as a state carriage, stating that they go against the provisions of the Motor Vehicles Act, 1988 and several Supreme Court verdicts. It has demanded that these rules be struck down.

### **The flashpoint**

Many tourist vehicle operators have obtained the All-India Tourist Permit after the central law came into effect. But the issue heated up in Kerala after a bus operator named Robin Gireesh, with AITP, started operating an inter-state bus from Pathanamthitta to Coimbatore, with many stops enroute. The service was received well by passengers, but KSRTC, which has dominance in the inter-state sector, objected to it.

The Motor Vehicles Department (MVD) stepped in, slapping fines on the bus in many cities. The Tamil Nadu MVD also imposed a fine on the Robin bus, and its owner alleged this was at the behest of Kerala. The bus owner continued the service for a few more days, triggering debate over the new permit norms. The MVD suspended its permit on November 29. The operator then moved the HC, with KSRTC impleaded in the case. The court has orally raised doubts about challenging the new permit rules.

### **The worry for Kerala**

Kerala's problem is that if private operators with AITPs start operating like a regular bus service, it would hit the revenue of the state transport entity, already running under huge losses.

Relevance: GS Prelims & Mains Paper II; Governance

Source: The Hindu

## **3. New highly fluorescent material brings non-enzymatic approach for detection of anticancer drug Methotrexate known for toxicity at high dosage**

### **Why in news?**

A new highly fluorescent material with exceptional optical properties has been developed using phosphorene, cystine, and gold (Ph-Cys-Au) which can be used as a visual sensing platform for detecting anti-cancer drug MTX overdose of which has toxic effect on lungs, stomach, and heart.

### **What is the need of monitoring?**

Monitoring therapeutic drugs and their elimination is crucial because they may cause severe side effects on the human body. Methotrexate (MTX) is a widely used anti-cancer drug. The MTX value of more than 10  $\mu\text{M}$  in blood plasma is hazardous if it remains in the system for more than 10 hours, resulting in poisoning effects on the lungs, ulcers of the stomach, and heart stroke. MTX is highly expensive, and the detection of unwanted overdoses using traditional procedures is time-consuming and involves complex instrumentation. Considering all these issues, the development of fast and sensitive detection using simple methodologies is required.

To address this issue, scientists of Institute of Advanced Study in Science and Technology (IASST), an autonomous institute of Department of Science and Technology (DST) have developed a highly fluorescent material using phosphorene, cystine, and gold (Ph-Cys-Au). The material has exceptional optical properties and thus can be used as a visual sensing platform for detecting the anti-cancer drug MTX. This non-enzymatic approach for the detection of anticancer drug Methotrexate can help cytotoxicity screening for therapeutic analysis.

Relevance: GS Prelims; Science & Technology

Source: PIB