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Daily News Pedia

Employee has right to resign, says Supreme Court

In sanjay jain Vs National aviation company of India limited (Air India) supreme court observe that to resign is a right of an employee.

Although resign is not absolute but qualified.

Supreme Court observe that right to resign is not applicable on certain grounds such as: there is some stipulation in the rules or in the terms of appointment. Disciplinary proceedings are pending or contemplated which is sought to be avoided by resigning from the services.

Source: The Hindu.

Regional Integrated Multi-Hazard Early Warning System (RIMES)

Regional Integrated Multi-Hazard Early Warning System (RIMES) for Africa and Asia, a 45-nation international organisation on disaster warning, has termed 'Titli', the severe cyclonic storm that devastated Odisha in October, as 'rarest cyclone'.

The UN-registered organisation said: Considering the history of cyclone tracks, no synthetic track projection captures the Titli type of cyclones. The forecast information available lacks actionable early warning information such as no indication of occurrence of secondary hazards, including landslides far away from the coasts.

The RIMES has recommended that a detailed risk assessment has to be carried out for Odisha to understand the risks in the light of the Titli devastation.

Earlier, India Meteorological Department had called the formation of Titli as a 'rarest of rare' occurrence.

Regional Integrated Multi-Hazard Early Warning System (RIMES):

- The RIMES is an intergovernmental body registered under United Nations.
- It was established registered with UN in 2009.
- It is owned and managed by 45 collaborating countries in Asia Pacific and Africa Region.
- India is chairman of the body.
- It operates from its regional early warning centre located at campus of Asian Institute of Technology in Pathumthani, Thailand.
- It has evolved from efforts of countries in Africa and Asia in aftermath of 2004 Indian Ocean tsunami.

RIMES caters to differential needs and demands of its Member States by enhancing capacities for end-to-end multi-hazard early warning, in particular:

- Hazard monitoring, detection, analysis, prediction, and forecasting
- Risk assessment
- Potential impact analysis
- Generation of tailored risk information at different time scales
- Risk communication

Amur falcon

Amur falcon is a small raptor of the falcon family.

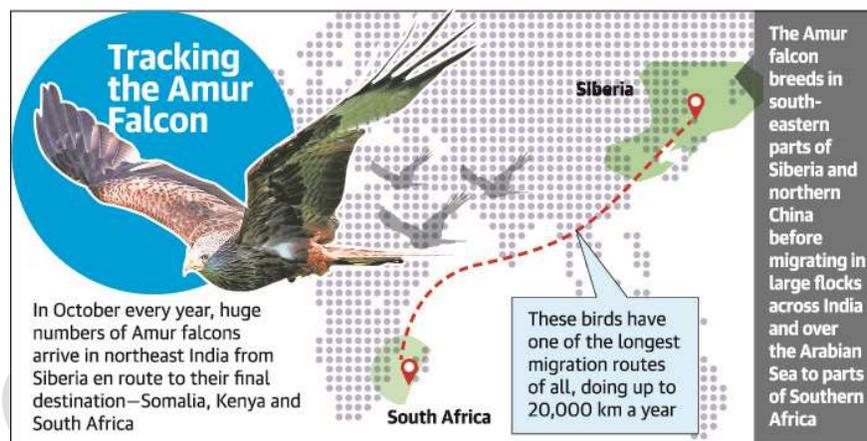
It breeds in south-eastern Siberia and Northern China before migrating in large flocks across India and over the Arabian Sea to winter in Southern Africa.

The raptor (bird of prey) — the size of a pigeon — makes its home in Nagaland, flying a staggering 22,000 km from there to South Africa, then onto Mongolia and back to Nagaland. The bird has one of the longest and most fascinating migratory paths in the avian world.

The falcon breeds in south-eastern Siberia and north-eastern China, where the Amur River divides the Russian Far East and China.

It is a small raptor, of the size of a pigeon. It covers one of the largest migratory distances from Mongolia and Russia to South Africa. It is not a critically endangered species and is found in large numbers. However, due to indiscriminate killing, their numbers are rapidly coming down.

It is considered as a delicacy in Nagaland and widely hunted and sold in the local market. The Centre decided to develop Doyang Lake in Nagaland, famous as a roosting site for longest travelling raptors Amur Falcons, as an eco-tourism spot for bird-watchers.



Open Transit Data (OTD)

Open Transit Data (OTD) has started being shared on a dedicated portal launched by the Delhi government for commuter's convenience.

Open Transit Data (OTD)

- The portal is designed and developed by IIT-Delhi.
- GPS feeds from cluster buses being operated by the Delhi Transport Corporation (DTC) will currently be available to the public through this platform.
- The data will include geo-coordinates of bus stops, route maps, timetable, and real time GPS feeds of bus locations every 10 seconds.
- The Capital is the first city in the country to share transit data of city buses both static and real time through a dedicated website.

Services provided under OTD

- The OTD portal will incorporate multi-modal transport data feed in future, including those of Metro and last-mile connectivity vehicles.
- The portal will also enable the government install real-time Passenger Information Systems (PIS) or display boards at bus stops and terminals to let commuters know the arrival time of various buses.
- OTD will also enable app-builders provide transit-related services like estimated time of arrival (ETA) at any bus stop, position of the vehicle, and alert and diversion messages, among others.

Benefits of OTD

- This initiative will provide a lot of useful information at the finger tips of citizen and encourage more and more people to switch to public transport, thereby impacting pollution.
- Researchers or anyone who can handle data can scrutinise the performance of buses whether they stop at bus stops, whether they complete their routes and also if they are speeding.
- Anyone can also make mobility apps for consumers using this data for predicting bus timings, route planning and integration with other transit options.

Source: The Hindu.

Researchers develop transgenic rice with reduced arsenic accumulation

Arsenic accumulation in rice grains is one of the serious agricultural issues in India.

To address this, researchers at Lucknow-based CSIR-National Botanical Research Institute have developed transgenic rice by inserting a novel fungal gene, which results in reduced arsenic accumulation in rice grain.

WaarsM Gene

- Researchers have cloned Arsenic methyltransferase (WaarsM) gene from a soil fungus, *Westerdykella aurantiaca*.
- They inserted the same into the rice genome with the help of *Agrobacterium tumefaciens*, a soil bacterium which has natural ability to alter the plant's genetic makeup.
- The newly developed transgenic rice along with normal rice was then treated with arsenic.
- Researchers found that the resulting transgenic plant acquired the potential for methylating inorganic arsenic to a variety of harmless organic species, including volatile arsenicals.
- This could be potential strategy for developing transgenic rice capable of low arsenic accumulation not only in grain but also in straw and feed which are used for livestock.

Benefits of this GM: The genetic modification of rice grain can be applied to develop practices to decrease accumulation of arsenic by molecular breeding, gene editing or transgenic approaches. As large numbers of people are affected by arsenic toxicity, it is imperative to develop rice with lesser arsenic content and high yield.

Scientists mull stratospheric barrier to curb global warming

Fencing Earth against Sunlight

Spraying sun-dimming chemicals high above the earth to slow global warming could be remarkably inexpensive costing about \$2.25 billion a year over a 15-year period, according to a study by U.S. scientists.

Some researchers say the geo-engineering technique known as stratospheric aerosol injection (SAI) could limit rising temperatures that are causing climate change.

What are Stratospheric Sulphur Aerosols: Stratospheric sulfur aerosols are sulfur-rich particles which exist in the stratosphere region of the Earth's atmosphere. The layer of the atmosphere in which they exist is known as the Junge layer, or simply the stratospheric aerosol layer. These particles consist of a mixture of sulfuric acid and water. They are created naturally, such as by photochemical decomposition of sulfur-containing gases, e.g. carbonyl sulfide.

Sulfur aerosols are common in the troposphere as a result of pollution with sulfur dioxide from burning coal, and from natural processes. Volcanoes are a major source of particles in the stratosphere as the force of the volcanic eruption propels sulfur-containing gases into the stratosphere.

Stratospheric Aerosol Injection (SAI)

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- Under SAI delivery of precursor sulfide gases such as sulfuric acid, hydrogen sulfide (H₂S) or sulfur dioxide (SO₂) by artillery, aircraft and balloons has under study.
 - This proposed method could counter most climatic changes, take effect rapidly, have very low direct implementation costs, and be reversible in its direct climatic effects.
 - It would involve the use of huge hoses, cannons or specially designed aircraft to spray large quantities of sulphate particles into the upper layer of the atmosphere to act as a reflective barrier against sunlight.
 - Total costs estimated to launch a hypothetical SAI effort 15 years from now would be \$3.5 billion and average annual operating costs would be about \$2.25 billion a year over 15 years.
 - Discounting other methods of deployment because of cost and feasibility, the research assumes a special aircraft can be designed to fly at an altitude of about 20 km and carry a load of 25 tonnes.

Benefits of the SAI: Mimics a natural process, Technological feasibility, Economic and feasible Cost and Efficiency.

Possible side effects: Tropospheric Ozone depletion, Whitening of the sky, Tropopause warming and the humidification of the stratosphere, Health effects and Stratospheric temperature and circulation change.

Kerala village set to become first local body to train all its women

Kangazha village in Kottayam (Kerala) is set to earn the distinction of having all its women aged 10-60 trained in self-defence — a first for any local body.

Launched as part of the Nirbhaya scheme in April 2017, the project has so far covered over 7,800 women and is slated to include the remaining 2,000-odd soon.

Kerala state had also earned distinction because of its unique of community service model – Kudumbashree.

Kudumbashree: Launched by Government of Kerala in 1998, it was envisioned as a part of the People’s Plan Campaign and local self-governance, with women at the centre of it.

Aim: To wipe out absolute poverty from state through concerned community action under the leadership of local self-government.

Source: The Hindu.

Dudhwa Tiger Reserve

Dudhwa Tiger Reserve is a protected area in Uttar Pradesh. It comprises the Dudhwa National Park, Kishanpur Wildlife Sanctuary and Katarniaghat Wildlife Sanctuary.

The protected area is home for tigers, leopards, Asiatic black bears, sloth bears, Swamp deer, rhinoceros, elephants, cheetal, hog deer, barking deer, sambar, wild boar and hispid hare.

It shares the north-eastern boundary with Nepal and hence Dudhwa Tiger Reserve and border security agency Sashastra Seema Bal have joined hands to provide security to Dudhwa forests and its rich wildlife.

Source: The Hindu.

Vetiver – also called as ‘the wonder grass’ of Tamil Nadu

Vetiver has gained popularity in the State for its wide range of applications in the pharma and cosmetic industries, besides anti-soil erosion properties.

It has huge global demand in the aromatic industry. The grass is popular for its quality to combat soil erosion and absorb carbon dioxide, thus erasing carbon footprints.

Vetiver is ideal for the long coastline, as it is suited for sandy soil. Its moisture retention property makes vetiver a natural choice for soil conservation and replenishment of ground water.

It is ideal for dry land cultivation using organic farming practices. Another quality of vetiver is that it is an anti-depressant.

Source: The Hindu.

Editorial

To Read

Incentivizing private sector R&D in India

The Indian government has tried to implement the increasingly popular patent box policy but hasn’t quite got it right.

In recent years, many countries have experimented with tax and economic policies to stimulate home-grown innovation. These include cash grants and other types of financial support; tax credits, deductions, exemptions and holidays; and accelerated tax depreciation rates. One policy that has been rapidly gaining popularity is the 'patent box'. While specifics may vary, all patent boxes have one common feature: they offer concessional tax rates for income accruing to patents. There are two intentions behind a patent box. The first is that it will lead to more home-grown research and development (R&D) and thus local innovation. Second, it will reduce erosion of the income tax base.

The economic rationale is straightforward. Because of the tax cost advantage conferred by the patent box, the relative cost of local R&D production is lowered. This means that local companies are incentivized to expand their R&D and patent-generation activity, meeting the first intention. Likewise, corporate groups are disincentivized from shifting intellectual property (IP) ownership abroad—and perhaps incentivized to transfer ownership of foreign IP to the home country—because the ratio of the tax rates on IP-sourced income is tilted in favour of the home country. This meets the second intention.

The appeal of the patent box vis-à-vis other R&D-related incentives lies in the second intention. Incentives like tax credits may incentivize local R&D generation, but do not incentivize in-country retention of IP ownership. As a result, corporate groups have a record of using transfer pricing mechanisms like contract R&D and cost sharing to avail of local R&D tax incentives, while maintaining IP ownership abroad in a low-cost jurisdiction. Under such an arrangement, IP income collects in the foreign jurisdiction, while the R&D cost is incurred in the home jurisdiction. The home jurisdiction loses the tax income generated by the asset that it subsidized through its tax breaks.

India introduced its own patent box in the Finance Bill (2016) by inserting Section 115BBF into the Income Tax Act. By doing so, it joined Brazil, Turkey, Singapore and a host of European countries in having patent-related incentives. Under Indian rules, royalty income from patents developed and registered in India is taxed at a concessional 10% rate (plus applicable surcharges). The concessional rate is applied to gross income or revenue.

Indian patent box rules are beneficial for the first intention, i.e. to stimulate home-grown R&D. This is because its concessional rate applies to gross income instead of net income, as is the case in most other jurisdictions. At first glance, the gross income rule seems a negative: it leads to the concessional rate being applied to a larger base, in turn leading to a larger tax payment. However, a closer look shows that the rule is beneficial, and leads to greater tax savings for the firm undertaking R&D. To see why this is so, we need only note that since R&D costs are not deducted from IP income, they will be deducted from the firm's other income, to which the standard corporate income tax rate applies. In general, a unit reduction to the tax base reduces taxes paid by the applicable tax rate. Hence, a deduction applied to 'other income' reduces taxes paid in proportion to the statutory corporate income tax (CIT) rate, while a deduction applied to royalty income reduces it only in proportion to the patent box rate. Since the patent box rate is lower than the CIT rate, the gross income rule is beneficial to the taxpayer.

Indian patent box rules may not be as effective in satisfying the second intention, i.e. preventing base erosion. The main reason for this is that eligibility rules are quite restrictive, more restrictive than those in other jurisdictions. One restriction is that only royalty income is eligible for patent box treatment. This means that a firm can only use this rate when it licenses out its IP. If, on the other hand, it uses its self-developed IP on its own products and services, then no explicit royalty payments are made and the patent box does not apply. Other countries do not have this restriction because they include "embedded" royalty payments in their patent boxes: hypothetical payments that would have accrued to the IP owner, if the IP were licensed to outside parties instead of being used internally.

Another restriction is that the patent box does not apply to IP that is developed in other countries, but then transferred to India. This removes the incentive for corporate groups to transfer existing foreign IP to India, as happens in jurisdictions without this restriction.

A third restriction is that the patent box is only available for Indian patents. It does not apply to Indian patents-in-progress or to Indian R&D that has resulted in US, European or other foreign patents. Apart from these restrictions, the Indian patent box rate is higher than in other jurisdictions. Despite the gross income rule, total taxes paid on R&D activity may therefore be lower in other countries, leading to India suffering a cross-country tax cost disadvantage.

In summary, the patent box is an important step in making India an attractive destination for R&D investment. It shows that the Indian administration is cognizant of the latest trends in tax policy and seeks consistency with global practice. The gross income rule is a positive step in providing tax benefits for R&D production. However, eligibility criteria remain restrictive and the overall tax burden on R&D is higher than in some other countries. These factors may mitigate against India establishing itself as an attractive R&D destination.

This analysis must be caveated because the international tax environment is in flux. Of particular importance is Action 5 (Countering Harmful Tax Practices More Effectively, Taking Into Account Transparency and Substance) of the OECD's BEPS Plan. Countries are already changing their IP treatment rules with major consequences for India's efforts to develop into an R&D powerhouse. But this is a topic for a separate analysis.

Mains Question

Q: What is "island effect"? Critically examine the causes of declining tribal population on Andaman and Nicobar islands.