

NEWSPAPER HIGHLIGHT

In a major discovery, the longest in-country migration route of lesser floricans, the endangered birds of the bustard group, has been tracked for the first time from Rajasthan to Maharashtra's Ahmednagar district. The telemetry exercise was undertaken in the Shokaliya landscape of Ajmer district to trace the journey of lesser floricans from their breeding grounds to their places of origin, in down South. Following initial failures, the scientific experiment has succeeded in locating a bird which travelled a distance of 1,000 km after breeding during the monsoon. Lesser florican, taxonomically classified as *Sypheotides indicus*, is a small and slender bird species belonging to the bustard group, found in tall grasslands, for which Dehradun-based Wildlife Institute of India (WII) has launched a recovery programme. The endangered bird is observed in Rajasthan, Madhya Pradesh, Gujarat and some other regions during the monsoon season, when it breeds and later disappears with its chicks to unknown places. The bird is listed as "critically endangered" on the International Union for Conservation of Nature's Red List of Threatened Species and its population has been identified as "decreasing".

The Centre has sought ₹25,000 crore as additional funding for the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme as part of the supplementary demand for grants submitted to Parliament, after the demand driven rural jobs scheme ran out of funds midway through the year. The additional budget for MGNREGA was among the most keenly awaited, as pending payments for wages and materials have threatened to cripple implementation of the scheme. Rural distress Continuing economic distress in rural India has led to increased demand for jobs under the scheme, which promises 100 days of unskilled work for every household at a pay of about ₹210 per day.

The productivity of Lok Sabha increased to 204% on Thursday as the House sat for extra hours till midnight to discuss the COVID19 pandemic, a historic milestone in Parliament. Commending MPs, Lok Sabha Speaker Om Birla said in the Lok Sabha that it was the highest ever recorded productivity in a single day of legislative business. "It shows how our people's representatives are engaged in public welfare and the message of

CRUMB RUBBER

1.The Government has decided to use Crumb Rubber Modified Bitumen in bituminous pavement courses during road construction. Bituminous pavements are constructed in different layers such as base course, binder course and surface course.

2.**Crumb rubber is recycled rubber produced by reducing scrap tires or other rubber into uniform granules.** Crumb rubber is manufactured from 2 primary feedstocks: Tire buffings, a by-product of tire retreading and Scrap tire rubber.

3.During the recycling process, the inherent reinforcing materials such as steel and fiber are removed along with any other type of inert contaminants such as dust, glass, or rock. Normal bitumen modified with crumb rubber & other additives has improved performance compared to normal bitumen.

UN REPORT ON MULLAPERIYAR DAM

1.A report by the United Nations (UN) University-Institute for Water, Environment and Health has mentioned about certain safety concerns of the Mullaperiyar dam. The report stated that around 93% of the world's largest dams are located in 25 nations.

2.**The construction of large dams has been declining steadily in the last 40 years. Life expectancy - The average life expectancy of a dam is 50 years.** Globally around 10,000 more dams have reached or exceeded the alert age limit of 50 years and many are expected to approach 100 years soon.

3.In India, around 1,115 large dams will be roughly 50 years old in 2050. Around 4,250 large dams will be more than 50 years old in 2050. 64 large dams in India will be more than 150 years old in 2050. Mullaperiyar - The report said that Mullaperiyar dam, built in 1895, is situated in a landslide-prone area (seismically active area).

4.If India's Mullaperiyar Dam were to fail, 3.5 million people are at risk. The dam shows significant structural flaws and its management is a contentious issue between Kerala and Tamil Nadu States.

5.Commissioning or de-commissioning of dams owned by State Governments is exclusively within the purview of the dam owning State.

NATIONAL POLICY ON BIOFUELS

1.The Government notified the National Policy on Biofuels (NPB) in 2018 to promote the use of biofuels in the country. The NPB envisages a target of 20% blending of ethanol in petrol by 2030 and 5% blending of biodiesel in diesel by 2030.

2.**Categories - NPB categorises bio-fuels into "Basic Biofuels" - First Generation (1G) bioethanol & biodiesel and "Advanced Biofuels" - Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, Third Generation (3G) biofuels, bio-CNG etc.**

3.They are categorised to enable extension of appropriate financial & fiscal incentives under each category. The Policy expands the scope of raw material for ethanol production by allowing use of Sugarcane Juice, Sugar containing materials like Sugar Beet, Sweet Sorghum, Starch containing materials like Corn, Cassava, Damaged food grains like wheat, broken rice, Rotten Potatoes, unfit for human consumption for ethanol production.

4.The Policy also allows use of surplus food grains for production of ethanol for blending with petrol with the approval of National Biofuel Coordination Committee.

5.NPB indicates a viability gap funding scheme for 2G ethanol Bio refineries of Rs.5000 crore in 6 years in addition to additional tax incentives, higher purchase price as compared to 1G biofuels.

6.It encourages setting up of Supply Chain Mechanisms for biodiesel production from non-edible oilseeds, Used Cooking Oil, short gestation crops.

GOLD MIRRORS

1.The James Webb Space Telescope scheduled to be sent into

such an engagement percolates down the system in a beneficial way.

Senior leader Shashi Tharoor moved a private member's Bill in the Lok Sabha seeking to establish permanent Benches of High Courts in State capitals. In Kerala, Gujarat, Madhya Pradesh, Odisha, Goa, Uttarakhand, Nagaland, Arunachal Pradesh, Mizoram and Chhattisgarh, the State High Court is situated outside the capital city. The private member's Bill was moved in the Lok Sabha after a gap of nearly two years. The private member's business had been pushed back mainly due to curtailed hours under COVID19 protocol, disruptions due to Opposition protest. His "Establishment of permanent benches of high courts at state capitals Bill" had been pending since 2019.

The Ministry of Women and Child Development has spent over ₹1,000 crore on its Poshan or Nutrition Tracker, which records realtime data on malnourished and 'severe acute malnourished' children in each anganwadi. But four years since its launch, the Government is yet to make the data public. The Government has spent ₹1,053 crore on the Poshan Tracker or Information Communication Technology Real Time Monitoring as on March 31, 2021, the Ministry of Women and Child Development told the Parliamentary Standing Committee on Education, Women, Children, Youth and Sports.

Two years after PepsiCo India provoked outrage by suing nine Gujarati farmers for allegedly infringing patent rights by growing its registered potato variety, the company's registration of the variety has been revoked by the Protection of Plant Varieties and Farmers Rights' Authority (PPV&FRA). "This judgment is a historic victory for the farmers of India. It should also prevent any other seed or food corporation from transgressing legally granted farmers' seed freedoms in India.

When Sonam Wangchuk Lepcha, from Dzongu in north Sikkim, started watching butterflies and taking pictures of them, he was not taken very seriously by the people around him. But now his hobby has led to the discovery of a new butterfly species, whose closest relatives are in southeastern China, close to Hong Kong. Butterfly, now named the Chocolatebordered Flitter, also carries the scientific name *Zographetus dzonguensis*, after Dzongu in north Sikkim, the place where it was discovered. Its closest relatives are *Zographetus pangi* in Guangdong, and *Zographetus hainanensis* in Hainan,

orbit soon has an important object, which is a large gold mirror. These mirrors will help collect light from the objects being observed.

2. The primary mirror, the lightweight mirrors, coatings, actuators and mechanisms, electronics, and thermal blankets when fully deployed form a single precise mirror. The primary mirror is made of 18 hexagonal-shaped mirror segments stitched together in a honeycomb pattern.

3. **The hexagonal shape allows for a roughly circular, segmented mirror with high filling factor and six-fold symmetry. All these mirrors can fold up and fit into a rocket and then unfold in space.** Each mirror segment is made from beryllium.

4. Beryllium is used as it is both strong and light. After the beryllium mirror segments were polished a thin coating of gold was applied to it using a technique called vacuum vapour deposition. Gold helps improve the mirror's reflection of infrared light.

5. **Beryllium is very strong for its weight and is good at holding its shape across a range of temperatures. Beryllium is a good conductor of electricity and heat and is not magnetic.** Because it is light and strong, beryllium is often used to build parts for supersonic airplanes and the Space Shuttle.

CLIMATE CHANGE & LOCUST INFESTATIONS

1. Experts said that the infestation of desert locusts is linked to climate change, as a hotter climate is linked to more damaging locust swarms. Therefore, plans to mitigate climate change must include action against pests and diseases.

2. **Bane** - Locusts have been a bane especially to farmers in several countries, including India, Pakistan and Iran. Locust infestations can also harm livelihoods and be a threat to regional investments in ensuring food security.

3. **Reasons** - Change in cyclonic patterns over the Arabian Sea is behind the locust invasions in east Africa, west and south Asia. Unusual rainfall in Iran helped in their breeding. Control - Locusts can be controlled using broad-spectrum pesticides. But these pesticides may be highly toxic to environment, humans and animals.

4. They are a threat to pollinators and wildlife. Measures - The following measures could be taken to control locust infestation: A well-functioning early warning system, Counting the environmental and human costs through True Cost Accounting, Developing an efficient governance model, Governing the locusts crisis may also provide useful lessons for the agri-food system, Research on the biopesticide sector must be funded and Satellite and weather data, along with field observations, can be used for building powerful predictive models on breeding sites.

NEGATIVE IMPORTS LIST FOR DEFENCE

1. The Government has brought in few changes in its negative imports list policy. This includes: The armed forces will now be able to import defence equipment in certain circumstances even if it figures in the negative import list. This includes scenarios where there is an "immediate requirement" that domestic industry cannot cater to, or if the safety of soldiers is at stake due to inadequacies in an indigenous product. There is also a provision now to review or remove items mentioned in the negative import list, which was first formulated in August 2020.

2. **What is the negative imports list policy/positive indigenisation list?** Introduced in August 2020, the negative list essentially means that the Armed Forces—Army, Navy and Air Force—will only procure such items from domestic manufacturers. The manufacturers could be private sector players or Defence Public Sector Undertakings (DPSUs).

3. **Why was this policy needed?** What will be the impact? As per Stockholm International Peace Research Institute, India has been the second largest importer between 2014 and 2019 with US\$ 16.75 billion worth of imports during this period. The government wants to reduce the dependence on imported items in defence and give a shot in the arm to the domestic defence manufacturing industry. By denying the possibility of importing the items on the negative list, the domestic industry is given the opportunity to step up and manufacture them for the needs of the forces.

4. **Significance and implications of this move:** Recognises the potential of local defence industry. Invigorate impetus to domestic Research and Development by attracting fresh investment into technology and manufacturing capabilities.

both in southeastern China, close to Hong Kong.

India's services sector activity expanded at the second fastest pace in more than a decade during November, driven by sustained rise in new work and improvement in market conditions, a monthly survey suggested. The seasonally adjusted India Services Business Activity Index was at 58.1 in November, fractionally lower than 58.4 in October. The November figure points to the fastest rise in output since July 2011. For the fourth straight month, the services sector witnessed an expansion in output. In Purchasing Managers' Index (PMI) parlance, a print above 50 means expansion.

Provides an excellent opportunity for 'start-ups' as also Micro, Small and Medium Enterprises (MSMEs).