

### NEWSPAPER HIGHLIGHT

India had 83 'unicorns' with a total valuation of \$277.77 billion, as on January 14, 2022, according to the Economic Survey 2021-22 released by the Ministry of Finance on Monday. It noted that ₹89,066 crore had been raised via 75 initial public offerings between April and November last year, much higher than in any year over the last decade. "Unicorn" is a term used in the venture capital industry to describe a privately held start-up company with a value of over \$1 billion.

There is an urgent need for crop diversification in view of the severe water stress in areas where paddy, wheat and sugarcane are grown as well as to increase oil seed production and reduce dependency on imports of cooking oil, the Department of Economic Affairs said in the annual Economic Survey released on Monday. While the Centre had adopted minimum support prices (MSP) for farm produce as a key tool to encourage crop diversification, the onus was on States to take coordinated action to facilitate a shift towards crops with higher value and lower water consumption, the department said.

India clocked its second highest gross Goods and Service Tax collections in January at ₹1,38,394 crore, 15% higher than a year earlier and 25% more than the GST revenues in the pre-COVID month of January 2020. The highest monthly GST collection since the introduction of the tax in July 2017, was ₹1,39,708 crore recorded in April last year. "Revenues from import of goods were 26% higher and the revenues from domestic transaction (including import of services) are 12% higher than the revenues from these sources during the same month last year," the Finance Ministry said in a statement.

The contraction in India's economy during the pandemic hit year FY21, was less than estimated earlier, as per revised data from the National Statistical Office (NSO) on Monday. Real GDP declined 6.6% in FY21, compared with a 7.3% contraction estimated previously, while the Gross Value Added (GVA) dropped 4.8% as opposed to a 6.2% fall indicated earlier. The NSO, however, also revised downwards real GDP growth for FY20 to 3.7% from 4% estimated earlier. Thus, a part of the revisions in FY21 data were

### VELLORE LAKE

1. A miyawaki forest canopy with towering native trees and a dense belt of flowering plants has turned the Vellalore Lake into a butterfly hotspot. The 90-acre Vellalore Lake is located in the city of Coimbatore.

2. This Lake was previously dry even during the rainy season. But it was filled as the channel connecting it with Noyyal River has been desilted and encroachments along the river were removed.

3. **This Lake is a breeding ground for spot-billed pelicans.**

### NEOCOV AND ZONOTIC SPILLOVER

1. A new study explores how different coronaviruses that are similar to MERS-CoV interact with different receptors in different host cells. The study highlights that through further adaptation, coronaviruses like NeoCoV or other related viruses could potentially gain the ability to infect humans.

2. **Receptor-binding Domain How a coronavirus latches onto special receptors on host cells depends on a key part of the virus known as its receptor-binding domain.** The differences in the receptor-binding domain of coronaviruses are therefore what determine the type of host receptor the virus will use and thus the host that it will be able to infect. There are currently 4 well-characterised receptors for coronaviruses, including ACE2 (used by SARS-CoV and SARS-CoV-2), and DPP4 (used by MERS-CoV).

3. NeoCoV-NeoCoV is a bat coronavirus that was first identified in 2011. It was identified in species of bats known as Neoromicia, which is where the name NeoCoV was derived from. Commonly known as aloe bats, this species is distributed in the Afro-Malagasy region. NeoCoV shares an 85% similarity to MERS-CoV in the genome sequence, making it the closest known relative of MERS-CoV. Inherently, NeoCoV cannot interact with human receptors, implying that in its current form the virus cannot infect humans. NeoCoV does not have the potential to use human ACE2 receptors and infect humans.

4. So, specific mutations artificially created in the receptor-binding domain of NeoCoV can enhance its efficiency to interact with human ACE2 receptors. These mutations have not yet been seen in NeoCoV isolates from natural settings. NeoCoV was found to use bat ACE2 receptors for efficiently entering cells and the interaction between NeoCoV and bat ACE2 receptors is different from what is seen in other coronaviruses that utilise ACE2.

5. Zoonotic Spillover Coronaviruses are a large family of viruses that are known to infect animals and humans. They are largely categorised into four genera - alpha, beta, gamma and delta. Alpha and beta coronaviruses commonly infect mammals such as bats and humans, while Gamma and Delta mainly infect birds. A number of human coronaviruses have been identified previously, including OC43, HKU1, 229E, NL63, SARS-CoV and MERS-CoV. While animals are generally considered as the reservoirs of corona viruses, rarely spillover events could occur. It is possible for viruses that infect animals to jump to humans, a process which is known as zoonotic spillover. Identified in 2012, the MERS-CoV was transferred to humans through infected dromedary camels through zoonosis.

6. SARS-CoV-2, the coronavirus responsible for the COVID-19 pandemic, belongs to the genus of beta coronavirus. In fact, it is the 7th type of coronavirus known to infect and cause severe disease in humans. It is thought to be a result of spillover.

**Significance - The interactions between humans and animals continue to increase, given the expanding human population and encroachment of animal habitats.** While the likelihood of spillover events is rare, an increased interaction can potentially accelerate such events. To prevent future outbreaks, it will thus be important to monitor this family of viruses for potential zoonosis. Genomic surveillance of human and animal viruses is therefore the key to understanding the spectrum of viruses, and possibly provide early warning to potential spillover events.

triggered by the base effect, while the NSO attributed the revisions to the use of more detailed industry information.

In the next 10 years, the railway sector will see a 'very high level' of capital expenditure (capex) to cater to the passenger demand, while the modal share of railways in freight will rise to 40-45% from the present level of 26-27%, the Department of Economic Affairs said in the annual Economic Survey. "The next 10 years will see a very high level of capex in the railway sector as capacity growth has to be accelerated such that by 2030 it is ahead of demand," the Survey said.

The Economic Survey 2021-22 has called for a standardised framework for crossborder insolvency as the Insolvency and Bankruptcy Code (IBC) at present does not have an instrument to restructure firms involving crossborder jurisdictions. The proposal to frame a robust crossborder insolvency framework has already been highlighted in the report of the Insolvency Law Committee, which had recommended the adoption of the United Nations Commission on International Trade Law (UNCITRAL), with certain modifications to make it suitable to the Indian context. "UNCITRAL on Cross Border Insolvency, 1997 has emerged as the most widely accepted legal framework to deal with cross border insolvency issues," the Survey said.

The ethanol supply in the country to enable blending with petrol is likely to reach 302 crore litres, according to the Economic Survey 2021-2022. The Centre has set a target of 20% ethanol blending with petrol to be achieved by 2025 to reduce the country's crude oil import bill, give a boost to the agriculture sector and reduce environmental pollution. Ethanol supply under the Ethanol Blended Petrol (EBP) Programme is expected to exceed 302 crore litres by the end of Ethanol Supply Year (ESY) 2020-2021 (December 1, 2020 November 30, 2021) to achieve approximately 8.1% blending, the Survey noted. This is an increase of 74.5% compared with the previous year.

India's GDP is expected to grow by 9.2% this year and 8% to 8.5% in 2022-23, though hardening inflation and energy prices along with tightening of global liquidity pose a challenge, according to the Economic Survey for 2021-22 tabled by Union Finance Minister Nirmala Sitharaman in Parliament.

India called for quiet diplomacy and the peaceful resolution of the

## INTRANASAL VACCINES

1. The Drugs Controller General of India approved the trials of intranasal booster doses against Covid-19 that is being manufactured by Bharat Biotech, the maker of Covaxin. Vaccines are usually given through different routes. The most common being injectable shots delivered into the muscles (intramuscular) or the tissue just between the skin and the muscles (subcutaneous).

2. Other routes of delivery, especially in some vaccines for infants, include administering the liquid solution orally instead of injecting. In the intranasal route, the vaccine is sprayed into the nostrils and inhaled. Many viruses, including the coronavirus, enter the body through mucosa triggering a unique immune response from cells and molecules there. [Mucosa is the wet, squishy tissue that lines the nose, mouth, lungs and digestive tract.]

3. Intramuscular vaccines generally fail at eliciting this mucosal response, and instead rely on immune cells mobilised from elsewhere in the body flocking to the site of infection. An intranasal vaccine will act against the virus from the time it tries to break the body's barrier, thereby making it more effective than the intramuscular ones in many cases.

4. Working of vaccines - Generally, both the aforementioned types of vaccines trigger a response in the blood. B cells would churn out antibodies - including IgG (particularly potent disease-fighter) - to roam the body in search of the virus. Other cells, called T cells, would either help B cells produce antibodies or seek out and destroy the infected cells.

5. Working of Intranasal vaccine - However, **vaccines that are injected through the nose or mouth would also tap into another set of immune cells that hang around mucosal tissues.** The B cells that reside there can make another type of antibody called IgA that plays a large role in destroying the airway pathogens. In addition to this, the T cells that are residing nearby will be able to memorise the pathogens that it encountered and will lifelong scout the areas where these were first encountered.

6. Importance - **Intranasal vaccines are easy-to-deliver vaccines. As they go into a mucosal surface, it will likely be restricted (and there is a) likelihood of lower safety events. Intranasal vaccines aim to overcome potential difficulties with mass vaccination and reduce the cost by doing away with the need for needles and syringes.** These vaccines are also expected to cut down on the dependence on various trained personnel to administer the vaccine.

7. Drawbacks - Vaccines that arouse mucosal immunity come with their own drawbacks. After the rollout of the oral polio vaccines where in some cases, it still caused the disease after the weakened virus in the product mutated. Also, there is very little evidence to back the effectiveness of this route of delivery so far.

## CENTRE APPOINTS ANANTHA NAGESWARAN AS CEA

1. The Government of India has appointed Anantha Nageswaran as the new Chief Economic Advisor. He is a former member of Prime Minister Economic Advisory Council.

2. The CEA reports to the Finance Minister of India.

3. **The post is equivalent to Secretary in India.** The CEA is the head of the Department of Economic Affairs that operates under Ministry of Finance.

## ASSET RECONSTRUCTION COMPANY(ARC)

1. It is a specialized financial institution that buys the Non-Performing Assets (NPAs) from banks and financial institutions so that they can clean up their balance sheets. This helps banks to concentrate on normal banking activities.

2. The asset reconstruction companies or ARCs are registered under the RBI. Legal Basis: The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 provides the legal basis for the setting up of ARCs in India.

3. Capital Needs for ARCs: **As per amendment made in the SARFAESI Act in 2016, an ARC should have a minimum net owned fund of Rs. 2 crores.** The RBI raised this amount to Rs. 100 crores in 2017. The ARCs also have to maintain a capital adequacy ratio of 15% of its risk weighted assets.

4. Need for: The total stress in the banking system would be in excess of Rs 15 lakh crore. The banks burdened with stressed assets and limited capital will find it difficult to manage the NPAs. There is also limited capital that the government can

**Russia-Ukraine tensions. Speaking at the UN Security Council (UNSC) meeting on Ukraine, India's Permanent Representative to the UN also called for the immediate de-escalation of the situation while taking into account the security interests of all. "India's interest is in finding a solution that can provide for immediate deescalation of tensions taking into account the legitimate security interests of all countries and aimed towards securing long term peace.**

provide. This is where the bad bank model would step in and help both the government and banks.