

NATIONAL SOCIAL ISSUES- WOMEN, POPULATION, URBANISATION, EMPOWERMENT ETC**India short of 6 lakh doctors, 2 million nurses: U.S. study**

India has a shortage of an estimated 600,000 doctors and 2 million nurses, say a US study.

Out-of-pocket costs of health

- In India, 65% of health expenditure is out-of-pocket, and such expenditures push some 57 million people into poverty each year.
- Even when antibiotics are available, patients are often unable to afford them.
- High out-of-pocket medical costs to the patient are compounded by limited government spending for health services.
- The study found that lack of staff that are properly trained in administering antibiotics is preventing patients from accessing life-saving drugs.

Mortality burden

- Researchers at CDDEP in the U.S. conducted stakeholder interviews in Uganda, India, and Germany, and literature reviews to identify key access barriers to antibiotics in low-, middle-, and high-income countries.
- The majority of the world's annual 5.7 million antibiotic-treatable deaths occur in low- and middle-income countries.
- Here, the mortality burden from treatable bacterial infections far exceeds the estimated annual 700,000 deaths from antibiotic-resistant infections.
- Health facilities in many of these countries are substandard.

Issues with India

- In India, there is one government doctor for every 10,189 people (the WHO recommends a ratio of 1:1,000), or there is a deficit of 600,000 doctors.
- The nurse: patient ratio is 1:483, implying a shortage of two million nurses.
- Lack of access to antibiotics kills more people currently than does antibiotic resistance, but we have not had a good handle on why these barriers are created.
- The findings of the report show that even after the discovery of new antibiotic, regulatory hurdles and substandard health facilities delay or altogether prevent widespread market entry and drug availability.

GEOGRAPHY**Long Period Average: The IMD yardstick for determining rainfall**

While releasing its monsoon forecast, the IMD expressed the projected rainfall in terms of Long Period Average (LPA), saying that it was expected to be 96% of LPA.

What is LPA of Monsoon

- The LPA for the season is calculated on the basis of the mean rainfall during the four-month monsoon season over the 50-year period from 1951-2010.
- It works out to an average of 89 cm for the country as a whole.
- This is the average rainfall recorded during the months from June to September, calculated during the 50-year period.
- It is kept as a benchmark while forecasting the quantitative rainfall for the monsoon season every year.
- When IMD forecasts the category of rainfall, be it for country, region or month, the forecast is based on these standardised figures calculated for a period of 50 years.
- As per the outputs obtained from the weather models, the rainfall is categorised as normal, below normal, or above normal.

Five Rainfall Distribution categories

- Normal or Near Normal: When per cent departure of actual rainfall is +/-10% of LPA, that is, between 96-104% of LPA
- Below normal: When departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA
- Above normal: When actual rainfall is 104-110% of LPA
- Deficient: When departure of actual rainfall is less than 90% of LPA

- Excess: When departure of actual rainfall is more than 110% of LPA

Region-wise LPA

- 83 cm for East and Northeast India,
- 55 cm for Central India,
- 61 cm for South Peninsular India, and
- 50 for Northwest India, which put together, bring the all-India figure to 88.75 cm.

INTERNATIONAL AFFAIRS- BILATERAL, GROUPINGS, ORGANISATIONS

World's largest plane makes first test flight:

The world's largest aircraft recently took off over the Mojave Desert in California.

Key facts:

- It is carbon-composite plane built by Stratolaunch Systems Corp.
- It is called Roc.
- It has a wingspan of the length of an American football field and is powered by six engines on a twin fuselage.
- The plane is designed to drop rockets and other space vehicles weighing up to 500,000 pounds at an altitude of 35,000 feet and has been billed by the company as making satellite deployment as "easy as booking an airline flight."

INDIAN ECONOMY

Unified Payments Interface (UPI)

An analysis of data from the Reserve Bank of India (RBI), the National Payments Corporation of India (NPCI) and some industry players from April 2018 to March 2019 shows that not only is the UPI platform outperforming e-wallets in terms of the value of transactions done, but it is also eating away at e-wallets' market share in specific areas such as person-to-merchant (P2M) transactions. Payments made on the UPI platform saw a remarkable growth of over 400% in the April to March period, from a little more than Rs. 27,000 crore in April 2018 to Rs. 35 lakh crore in March 2019.

Why UPI is outperforming e- wallets?

- People are changing the way they transact, choosing bank-to-bank methods such as the Unified Payments Interface (UPI) over other instruments such as e-wallets. This is because UPI is completely interoperable and as such, it is unique in the world, where you have an interoperable system on the 'send' and 'receive' side.
- The rapid growth of UPI is accompanied by a reasonably strong growth in the value of transactions done using e-wallets, but the latter's growth has not taken off much following the fillip it received in the aftermath of demonetisation in November 2016.

What is Unified Payments Interface (UPI)?

- Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood. It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience.

How is it unique?

- Immediate money transfer through mobile device round the clock 24*7 and 365 days.
- Single mobile application for accessing different bank accounts.
- Single Click 2 Factor Authentication – Aligned with the Regulatory guidelines, yet provides for a very strong feature of seamless single click payment.
- Virtual address of the customer for Pull & Push provides for incremental security with the customer not required to enter the details such as Card no, Account number; IFSC etc.
- Bill Sharing with friends.
- Best answer to Cash on Delivery hassle, running to an ATM or rendering exact amount.
- Merchant Payment with Single Application or In-App Payments.
- Utility Bill Payments, Over the Counter Payments, Barcode (Scan and Pay) based payments.
- Donations, Collections, Disbursements Scalable.
- Raising Complaint from Mobile App directly.

Participants in UPI:

- Payer PSP.
- Payee PSP.
- Remitter Bank.
- Beneficiary Bank.
- NPCI
- Bank Account holders.
- Merchants

UPI – Benefits to the Ecosystem participants:
Benefits for banks:

- Single click Two Factor authentication.
- Universal Application for transaction.
- Leveraging existing infrastructure.
- Safer, Secured and Innovative.
- Payment basis Single/ Unique Identifier.
- Enable seamless merchant transactions.

Benefits for end Customers:

- Round the clock availability.
- Single Application for accessing different bank accounts.
- Use of Virtual ID is more secure, no credential sharing.
- Single click authentication.
- Raise Complaint from Mobile App directly.

Benefits for Merchants:

- Seamless fund collection from customers – single identifiers.
- No risk of storing customer's virtual address like in Cards.
- Tap customers not having credit/debit cards.
- Suitable for e-Com & m-Com transaction.
- Resolves the COD collection problem.
- Single click 2FA facility to the customer – seamless Pull.
- In-App Payments (IAP).

ENVIRONMENT- CONSERVATION, BIO-DIVERSITY AND ISSUES

Resilient Cities Asia-Pacific (RCAP) Congress

The 4th Resilient Cities Asia-Pacific (RCAP) Congress 2019 was organized by the International Council for Local Environmental Initiatives (ICLEI).

Resilient Cities Asia-Pacific

- RCAP is the annual global platform for urban resilience and climate change adaptation.
- It is convened by ICLEI – Local Governments for Sustainability and co-hosted by the World Mayors Council on Climate Change and the City of Bonn.
- It was launched in 2010 with the goal of forging partnerships and dialogues that matter.
- The success of the series 'Resilient Cities – The Annual Global Forum on Urban Resilience and Adaptation' that attracts hundreds of participants to Bonn, Germany, every year since 2010 is a clear indication of how pressing the issue of adaptation and resilience is perceived among local governments worldwide.
- The RCAP is a response to heightened demand from the Asia Pacific Region, which encouraged ICLEI to expand the congress series to include Resilient Cities Asia-Pacific, bringing the event and the focus to the Asia-Pacific region, catering to the situation, challenges and opportunities of local governments specifically in this region.
- It aims to provide an Asian platform for urban resilience and climate change adaptation where partnerships are forged and concrete dialogues are happening, with the ultimate goal of identifying solutions and creating lasting impacts for cities in the region.

SCIENCE AND TECHNOLOGY- EVERYDAY SCIENCE, SPACE, NUCLEAR, DEFENCE ETC**Double Asteroid Redirection Test (DART)**

SPACEX TO LAUNCH NASA'S ASTEROID-SMASHING MISSION. The mission will blast off in June 2021 and will smash into the asteroid's moon around October 2022. The Double Asteroid Redirection Test, or DART, is a spacecraft designed to determine whether an asteroid can be redirected with a high-speed collision. SpaceX will launch the spacecraft toward an asteroid named Didymos about 4 million miles from Earth. It then will ram into the asteroid's small moon at about 13,000 miles per hour.

About the DART:

- DART would be NASA's first mission to demonstrate what's known as the kinetic impactor technique – striking the asteroid to shift its orbit – to defend against a potential future asteroid impact.
- The target for DART is an asteroid that will have a distant approach to Earth in October 2022, and then again in 2024. The asteroid is called Didymos – Greek for “twin” -because it is an asteroid binary system that consists of two bodies: Didymos A, about 780 metres in size, and a smaller asteroid orbiting it called Didymos B, about 160 metres in size.
- DART would impact only the smaller of the two bodies, Didymos B. The Didymos system has been closely studied since 2003. The primary body is a rocky S-type object, with composition similar to that of many asteroids.
- The composition of its small companion, Didymos B, is unknown, but the size is typical of asteroids that could potentially create regional effects should they impact Earth. After launch, DART would fly to Didymos and use an APL-developed onboard autonomous targeting system to aim itself at Didymos B.
- Then the refrigerator-sized spacecraft would strike the smaller body at a speed about nine times faster than a bullet, about six kilometres per second. Earth-based observatories would be able to see the impact and the resulting change in the orbit of Didymos B around Didymos A, allowing scientists to better determine the capabilities of kinetic impact as an asteroid mitigation strategy.
- The kinetic impact technique works by changing the speed of a threatening asteroid by a small fraction of its total velocity, but by doing it well before the predicted impact so that this small nudge will add up over time to a big shift of the asteroid's path away from Earth.

DEFENCE**India successfully test-fires Sub-sonic cruise Missile Nirbhay**

In a major boost for defence, India successfully test-fired its first Sub-sonic cruise missile, Nirbhay. The missile, which can be deployed from multiple platforms, was launched by the DRDO from complex-3 of the Integrated Test Range (ITR) at Chandipur, Odisha.

Nirbhay Missile

- Nirbhay is a long range, all-weather, subsonic cruise missile designed and developed in India by the Defence Research and Development Organisation (DRDO).
- The missile can be launched from multiple platforms and is capable of carrying conventional and nuclear warheads.
- It is a two-stage missile powered by Solid rocket motor booster.
- It is capable of carrying warheads of up to 300kg at a speed of 0.6 to 0.7 Mach (sub-sonic)
- It has an operational range of 1000 km (long range).

QUOTE OF THE DAY

Suffer now, take the pain and live the rest of your life like a champion.