



PIB, THE HINDU Newspaper and Editorial Current Affairs

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MOU signed between Ministry of AYUSH and Council of Scientific and Industrial Research

Why in news?

A Memorandum of Understanding (MOU) was signed between the Ministry of AYUSH and Council of Scientific and Industrial Research (CSIR), New Delhi today for cooperation in research and education in areas of traditional systems of medicine and its integration with modern science.

Highlights:

- Secretary stated in due cognition of the growing interest of traditional medicines worldwide, there is a need of multipronged and innovative approaches for the acceptance of this science.
- combination of traditional healthcare and modern basic science has a huge possibility to do innovative and path-breaking researches which can be used for the explanation of various basic concepts.
- enhancing the collaboration through joint R&D efforts ranging from fundamental science to validation and thereafter product development, will significantly help in the growth of the Indian contributions to this important sector, not only nationally but internationally as well.
- Futuristic efforts of this inter-ministerial cooperation shall include pursuit of Data mining & analytics and Artificial Intelligence to enable and facilitate concepts such as “Traditional knowledge inspired drug discovery and development” and “Food as Medicine”.

About Traditional Knowledge Digital Library (TKDL):

- Traditional Knowledge Digital Library (TKDL) is a pioneer initiative of India to prevent misappropriation of country's traditional medicinal knowledge at International Patent Offices on which healthcare needs of more than 70% population and livelihood of millions of people in India is dependent.
- Its genesis dates back to the Indian effort on revocation of patent on wound healing properties of turmeric at the USPTO. Besides, in 2005, the TKDL expert group estimated that about 2000 wrong patents concerning Indian systems of medicine were being granted every year at international level, mainly due to the fact that India's traditional medicinal knowledge which exists in local languages such as Sanskrit, Hindi, Arabic, Urdu, Tamil etc. is neither accessible nor comprehensible for patent examiners at the international patent offices.
- Traditional Knowledge Digital Library* has overcome the language and format barrier by scientifically converting and structuring the available contents (till date 0.29 million medicinal formulations) of the ancient texts on Indian Systems of Medicines i.e. Ayurveda, Siddha, Unani and Yoga, into five international languages, namely, English, Japanese, French, German and Spanish, with the help of information technology tools and an innovative classification system - Traditional Knowledge Resource Classification (TKRC).
- TKRC has structured and classified the Indian Traditional Medicine System in approximately 25,000 subgroups for Ayurveda, Unani, Siddha and Yoga. TKRC has enabled incorporation of about 200 subgroups under A61K 36/00 in International Patent Classification instead of few sub-groups earlier available on medicinal plants under A61K 35/00 thus enhancing the quality of search and examination of prior-art with respect to patent applications field in the area of traditional knowledge.
- TKDL has also been able to set international specifications and standards for setting up of TK databases based on TKDL specifications. This was adopted in 2003 by the Committee in fifth session of the Intergovernmental Committee (IGC) of WIPO on Intellectual Property and Genetic Resources, Traditional Knowledge and Expression of folklore.

- TKDL technology integrates diverse disciplines and languages such as Ayurveda, Unani, Siddha, Yoga, Sanskrit, Arabic, Urdu, Persian, Tamil, English, Japanese, Spanish, French, German, modern science & modern medicine. Till date, TKDL is based on 359 books of Indian Systems of Medicine, which are available at a cost of approx US\$ 1000, in open domain and can be sourced by any individual/organization at national/international level. TKDL acts as a bridge between these books (Prior-art) and International patent examiners.
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Earth Day

- Earth Day is an annual event celebrated on April 22. Worldwide, various events are held to demonstrate support for environmental protection. First celebrated in 1970, Earth Day now includes events in more than 193 countries, which are coordinated globally by the Earth Day Network.
 - In 1969 at a UNESCO Conference in San Francisco, peace activist John McConnell proposed a day to honor the Earth and the concept of peace, to first be celebrated on March 21, 1970, the first day of spring in the northern hemisphere. This day of nature's equipoise was later sanctioned in a proclamation written by McConnell and signed by Secretary General U Thant at the United Nations.
 - Numerous communities celebrate Earth Week, an entire week of activities focused on the environmental issues that the world faces. In 2017, the March for Science occurred on Earth Day (April 22, 2017) and was followed by the People's Climate Mobilization (April 29, 2017).
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Serial blasts across Sri Lanka

Why in news?

Over 200 people were killed and nearly 500 injured in a series of blasts that shook Sri Lanka on Easter Sunday. Churches and luxury hotels were targeted in the deadliest incidents since the civil war ended a decade ago.

Deadliest Attack:

- As many as eight blasts occurred in and around the capital Colombo and in the eastern city of Batticaloa on Sunday morning, as large groups gathered at churches for Easter services.
 - Most of the blasts appear to have been suicide bombings, State Minister of Defence told.
 - Hours after the well-coordinated attacks, police arrested seven suspects from a building in the Colombo suburb of Dematagoda. Even as the police operation was underway, an explosion took place, killing three policemen.
 - No group has claimed responsibility for the blasts. Investigating authorities in Sri Lanka are yet to disclose the names of the suspects or the alleged perpetrators.
 - At least eight foreign nationals were confirmed dead by Sunday evening, while 27 others who were found dead, were believed to be foreigners. Their nationalities are yet to be made known by the Ministry.
 - The scale and savagery of the attacks that clearly targeted Christians have left Sri Lankans devastated.
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Solar Thermal Systems

Why in news?

At the mention of 'solar', most of us think about arrays of blue, sun-facing panels that generate electricity. That is because 'solar photovoltaic', for historical reasons, grew very fast, in India and elsewhere, and became ubiquitous. But there is another 'solar', simpler and traditional, which is known to give a better bang for every buck invested. To wit, 'solar thermal'.

How it works?

- 'Solar PV' works by photons in sun's rays knocking off electrons in the semi-conducting material in the panels and channels them through a wire the stream of electrons is electricity.
- Solar PV, therefore, works best where there is lot of sunlight. Solar thermal systems, in contrast, **suck up sun's heat and conduct it to where it is needed** such as for drying of spices or fish or wet paint.

Use of collectors:

- Just as we call the sun-facing photovoltaic sheets 'panels' or 'modules', in solar thermal the stuff that lies open to sun are called 'collectors' and are measured in terms of square metres.
- They come in different forms, but primarily, as tubes, flat plates or reflectors that focus sunlight on to a **heat-picking 'thermic fluid'**.
- The interesting aspect of these solar collectors is their juicy economics.
- Now, there is nothing esoteric about using sun's heat for drying. Solar water heaters, for instance, have been around for long.
- If you go to Shirdi or Tirupati and peep into the kitchens, you would see solar thermal used for cooking meals for thousands of pilgrims.
- Even the use of solar heat in industries is not uncommon. For instance, the cycle manufacturer, TI Cycles, has been using it for drying paint for nearly a decade.
- TTK Prestige put up a system (pictured here) years ago on the roof of its Salem plant that makes pressure cookers. But the adoption of solar thermal has been tepid, relative to its potential.
- Experts reason that the earlier systems were expensive and the bang they gave vis-a-vis the incumbent, fossil-fuel based systems was not that high.

Promotion:

- A good first step would be to get the government to also pay solar thermal as much attention as solar PV. Well, there is a 30% subsidy for solar thermal equipment, but ironically, as every expert says it only hinders rather than help.
- Customers see the subsidy on paper and want to avail themselves of it, while the administration of the subsidy is so complex that it tires

them out. The industry would rather not have it at all.

- The subsidy scheme be retooled so that it is given to Indian manufacturers, in order to encourage local production rather than in China.

Key user missing:

- The meat lies in getting the highest potential user, the industry, to adopt solar thermal. Industry's role is so well recognised that it has given birth to an acronym 'SHIP', which stands for '**solar heating for industrial processes**'.
- But solar thermal is space-consuming and in a given space, industries tend to use it for the old-familiar, the PV.

Solar payback project:

- A move to convince the industry to give solar thermal a shot has emerged in the form of a '**solar payback project**', funded by the **German 'International Climate Initiative'**.
- The project aims to promote SHIP in India, South Africa, Mexico and Brazil, and the report on where India should first focus is due soon.
- The report has identified three areas dairy, food processing and pharmaceuticals, and auto components, for early adoption of solar heating.
- So, the ball is rolling, but it needs a good kick towards the goal post. The trick lies in getting the industry deliver the kick. Experts believe that in due course the example set by the early adopters will get more following.

Opex model coming up:

- As funds flood in, companies like Sun Best and Megawatt Solutions can do the 'opex model', **where they own the equipment and the user industry pays only for the heat delivered.**
- Common in solar PV, the 'opex model' is beginning to happen in thermal, but it needs financial fuel for growth.
- Solar thermal is a fledgling industry, of limitless potential. In the industry there is a resounding call for the government to be the springboard.
- When the comfort level with solar thermal plants goes up, financiers will chip in; because the returns can be upwards of 22%.

Ethical gold rush: buyers want guilt-free jewellery

Why in news?

Forget how many carats, how ethical is your gold? As high-end consumers demand to know the origin of their treasures, some jewellers are ensuring they use responsibly sourced, eco-friendly or recycled gold.

Ethical Gold:

- Specialised producers now tack a “**fairmined**” **ecologically friendly** label on their output, and the Swiss house Chopard last year became the first big name to commit to “100% ethical” creations.
- The Geneva-based firm, which makes the Palme d’Or trophy for the Cannes Film Festival, says it now uses only verified suppliers of gold that meet strict standards to **minimise negative environmental impacts of mining the precious metal**.
- Among the many certificates and standards claiming to codify “responsible” gold mining, two labels stand out.
- They are “fairmined” gold a label certified by a Colombian NGO and the more widely known “fairtrade” label launched by Swiss foundation Max Havelaar.

Work conditions, wages:

- Both support artisanal mines that seek to preserve the environment in terms of extraction methods, along with decent working conditions and wages for the miners.
- Such production remains limited just a few hundred kilograms annually. Global gold output by comparison totals around 3,300 tonnes.
- Concerned jewellers are keen to ensure they can trace the source of their entire supply to an ethical production cycle and to firms certified by the not-for-profit **Responsible Jewellery Council** (RJC), which has developed norms for the entire supply chain.
- RJC members must adhere to tough standards governing ethical,

human rights, social and environmental practices across the precious metals industry.

Recycled gold:

- The French luxury group Kering, which says it has bought more than 3.5 tonnes of “responsibly produced” gold since 2015 for its Boucheron, Pomellato, Dodo and Gucci brands, has committed to 100% use of “ethical” gold by 2020.
- **Fairmined or Fairtrade gold is “about 10 to 12% more expensive.**
- But recycled gold barely generates any additional cost premium, since it was already refined for a previous life in the form of jewellery or part of a high-tech product.

Extraction from e-waste:

- Going a step further, using only precious metal from electronic or industrial waste is an original idea developed by Courbet, a brand launched just last spring.
- We do not want to promote mining extraction or use recently extracted gold, so we sought suppliers who recycle gold used in graphics cards or computer processors. That’s because we know today that more than half of gold’s available reserves have already been extracted,” said Marie-Ann Wachtmeister, Courbet’s co-founder.
- Ms. Wachtmeister said that the brand’s watchwords are ethical and environmental consciousness.
- In a mine, a tonne of terrain might contain five grams of gold, whereas a tonne of electronic waste might generate 200 grams, she added.

Cyber expert made malware, pleads guilty

Why in news?

A British cybersecurity researcher credited with stopping a worldwide computer virus has pleaded guilty to developing malware to steal

banking information.

Plead Guilty:

- Federal prosecutors in Wisconsin and Marcus Hutchins' attorneys said in a joint court filing that the 24-year-old agreed to plead guilty to developing malware called **Kronos** and conspiring to distribute it from 2012 to 2015.
 - Kronos was "**used to infect numerous computers around the world and steal banking information,**" prosecutors said.
 - It's unclear how much Hutchins' profited from creating the malware.
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India's policy on Tibet is clear

Why in news?

In the crossfire between China and the U.S. over the reincarnation of the Dalai Lama, India is unlikely to side with Washington, said a senior researcher.

What china expects?

- In response to a question during a media event earlier this month on China's expectation from India on the recent controversy regarding the reincarnation Wang Xiaobing, research fellow at the China Tibetology Research Centre, said that he was confident about New Delhi's positive response.
 - With regard to the core issues, that are central to national interests on China, the Indian government has a very clear policy. It knows that Tibet belongs to China; so on those central core issues concerning China, India has a very clear position," Mr. Wang said.
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Apex court made several interventions for fair polls

Why in news?

The 2019 Lok Sabha election has seen the Supreme Court intervene time and again with the Election Commission (EC) to do the right thing.

Waking up the powers of ECI:

- From asking the panel to watch a movie before deciding to get its release postponed to increasing the VVPAT verification from one to five EVMs in an Assembly segment and standing up for the EC in the electoral bonds issue, the Supreme Court has, for the past few weeks, intervened for the conduct of free and fair polls.
 - When the EC stayed the public screening of the biopic PM Narendra Modi, a Supreme Court Bench led by Chief Justice Ranjan Gogoi agreed with the filmmakers that the poll body should first view the entire movie before taking a call on its release.
 - The freedom of speech and expression was at stake here. The court asked the EC to give the filmmakers a chance to be heard.
 - The court gave judicial recognition to the **EC's long-felt apprehensions about the lack of transparency in the government's much-touted electoral bonds scheme.**
 - In an interim order, the court directed parties to provide complete information to the EC in sealed covers on every single donor and contribution received till date through electoral bonds.
 - Refusing the government's stand that the court should steer clear of policy issues, the CJI Bench found that lack of transparency raised "weighty issues with tremendous bearing on the sanctity of the electoral process in the country".
 - The most telling intervention of the Supreme Court was the manner in which it made the EC "wake up to its own powers" and take action against politicians for making communal and religious statements in their election speeches.
 - The court has asked the EC to respond to a plea that cash for vote is on the rise in Tamil Nadu and denies "an equal voice for some voters and an equal chance for some candidates."
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Medicine labels in regional language

Why in news?

In order to counter fake, sub-standard and expired drugs, the Union Health Ministry has said Hindi and regional language will be used in the tendering process.

Necessary Steps:

- Drug names and expiry date during tendering will be in Hindi/regional language too for polio drop and Iron tablets procured for children under the government programmes,” said a senior health official.
 - The **Drugs Technical Advisory Board** (DTAB) recently recommended that government procurement agencies should take necessary steps in the tendering process to include the regional language, along with English, on the label of iron tablets and polio drops in government programmes.
 - An advisory may be issued by the government. Also, a sub-committee may co-opt the representatives from the pharmaceutical manufacturing industry and Indian Pharmaceutical Association for further deliberations on the overall issues related to labelling requirements of drugs.
 - Since last year, the government has been working on ensuring the most stringent quality control for both the products which directly affect almost all the children born in India.
 - The Board then constituted a **sub-committee under the chairmanship of Dr. R.N. Tandon**, honorary secretary general, IMA, New Delhi to examine and give recommendations to streamline the labelling requirements of drugs so as to provide the requisite information to the consumer.
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In a first, east Asian birds make Andaman stopover

Why in news?

Distinguished by the **green and brown plumage** on its back, the diminutive Horsfield's Bronze Cuckoo (*Chalcites basalis*) is a native of Australia and New Guinea.

New Arrivals:

- However, researchers had an unexpected encounter with the tiny bird, roughly about 15 cm and weighing 22 g and known for its repeated, loud and piercing whistle early on July 7, 2017 in a tsunami ravaged coastal forest in the **Great Nicobar Island** of the Andaman and Nicobar island chain. The sighting was the first recorded instance of the bird in India.
- Two other first-time visitors were also recorded on the islands over 2017-18. The **Zappey's Flycatcher** (*Cyanoptilacumatis*) a song bird that breeds in China and spends the winters in the Malay peninsula, Sumatra and Java, was spotted six times in different areas of Andaman and Nicobar Islands between December 2017 and March 2018 — at least thrice in pairs.

Thai visitor:

- Later that year researchers recorded the presence of the **Javan Pond Heron** (*Ardeolaspectiosa*), usually found in Thailand and Cambodia.
- Larger than Horsfield's Bronze Cuckoo and Zappey's Flycatcher, it was spotted on August 26, 2018.
- During their migration from north to south, these birds make a stopover at the Andaman and Nicobar Islands.
- The three new records from India from the Andaman and Nicobar Islands have been discussed in detail in a recent publication of journal *Birding ASIA*.

East Asian Flyway:

- In the past few years a few other birds of southeast Asian origin have been recorded in the Andaman and Nicobar Islands during migration.
- Researchers are intrigued by the fact that number of new sightings has increased post the 2004 tsunami.
- The new records include the **Mugimaki Flycatcher**

(Ficedulamugimaki) , **Blue-winged Pitta** (Pitta moluccensis) , **Chinese Egret** (Egrettaeulophotes) and the **Chinese Paradise Flycatcher** (Terpsiphoneincei).

- These birds also use Andaman and Nicobar Islands for a few weeks rest before they can fly along the **East Asian-Australasian Flyway** (EAAF).
 - The **EAAF extends from Arctic Russia and North America to the south Australian boundaries and includes the most of the east Asian regions including Andaman and Nicobar Islands.**
 - Andaman and Nicobar Islands, with just about **0.25 % the country's landmass, is home to about 350 species of exotic birds**, according to an official estimate.
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Health Ministry has no vaccines for Haj pilgrims

Why in news?

What is Meningitis?

- Meningitis is an infection of the protective membranes that surround the **brain and spinal cord** (meninges).
- It can affect anyone, but is most common in **babies, young children, teenagers and young adults.**
- Meningitis can be very serious if not treated quickly.
- It can cause **life-threatening blood poisoning** (septicaemia) and result in permanent damage to the brain or nerves.
- A **number of vaccinations are available** that offer some protection against meningitis.

The Health Ministry is grappling with a paucity of **meningitis vaccines** for Haj pilgrims as the only firm manufacturing them was asked to stop production last year after contamination was detected in its oral polio vaccines.

Search for new Manufacturer:

- According to sources in the Health Ministry, the only compant that manufactured the vaccines and provided it to the government was asked to stop production of all human vaccines in September last year

after **type-2 polio virus contamination** was detected in oral polio vaccines.

- Following the ban on the Ghaziabad-based pharmaceutical company Biomed Pvt. Ltd, the Ministry is now looking for options to arrange the vaccines in time for the Haj pilgrims.
 - Around 1.27 lakh people are expected to go for the annual Haj in July this year for which the Ministry will have to arrange for at least 1.47 lakh doses.
 - Extra vaccines are kept as some are rendered ineffective in the process of delivery to the States.
 - Those going to Saudi Arabia for the purpose of **Umra or pilgrimage** are required to submit a **certificate of vaccination with the quadrivalent (ACYW 135) vaccine against meningitis**, proving the vaccine was administered no more than 3 years ago and no less than 10 days before arrival in the country.
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