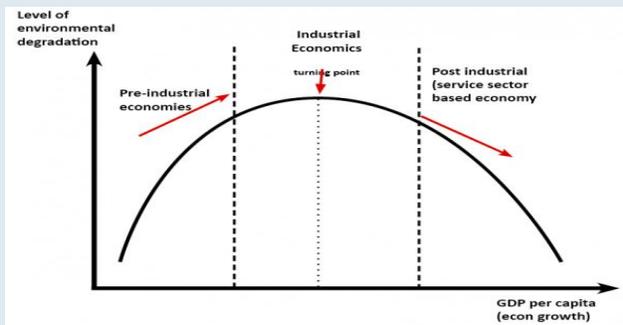


27.11.2017

1. THE ENVIRONMENTAL KUZNETS CURVE

The environmental Kuznets curve suggests that economic development initially leads to deterioration in the environment, but after a certain level of economic growth, a society begins to improve its relationship with the environment and levels of environmental degradation reduces.



From a very simplistic viewpoint, it can suggest that economic growth is good for the environment.

However, critics argue there is no guarantee that economic growth will lead to an improved environment – in fact, the opposite is often the case. At the least, it requires a much targeted policy and attitudes to make

sure that economic growth is compatible with an improving environment.

2. WHO RELEASES GUIDELINES ON RESPONDING TO CHILD SEX ABUSE

For the first time, WHO has published guidelines to help (primarily) front-line healthcare providers give high-quality, compassionate, and respectful care to children and adolescents (up to age 18) who have or may have experienced sexual abuse, including sexual assault or rape.

About the new guidelines: The new guidelines address an important gap in providing quality and trauma-informed care to survivors by placing emphasis on the safety, wishes, autonomy of children and adolescents.

Health care providers are recommended to:

- ✚ Provide first line support that is child or adolescent-centered and gender sensitive in response to disclosure of sexual abuse.
- ✚ Minimize additional trauma and distress while taking medical history, conducting the examination and documenting the findings.
- ✚ Offer HIV post-exposure prophylaxis and adherence support to those who have been raped and who present within 72 hours.
- ✚ Offer emergency contraception to girls who have been raped and who present within 120 hours/ 5 days.

- ✚ Consider STI presumptive treatment or prophylaxis in settings where laboratory testing is not feasible.
- ✚ Offer Hepatitis B and HPV vaccination as per national guidance.
- ✚ Consider cognitive behavioural therapy (CBT) with a trauma focus for those have PTSD symptoms and diagnosis and where safe and appropriate to do so involve at least 1 non-offending caregiver.
- ✚ Where required to report child sexual abuse to designated authorities, health care providers should inform the child or adolescent and their non-offending caregivers about the obligation to report the abuse and the limits of confidentiality before interviewing them.

3. TARGET OF 1 CRORE ACCOUNTS

The Pension Fund Regulatory and Development Authority (PFRDA) is stepping up its initiative to achieve the target of one crore accounts under the Atal Pension Yojana (APY) by the fiscal-end. Focused on the workers in the unorganized sector, PFRDA has already been able to open 73 lakh such accounts so far. The regulator is going all out to promote pension scheme in the rural areas **with the help of regional rural banks**.

About APY:

Under the scheme, a subscriber would receive a minimum guaranteed pension of Rs 1,000 to Rs 5,000 per month, depending upon his contribution, from the age of 60 years. The same pension would be paid to the spouse of the subscriber and on the demise of both the subscriber and the spouse, the accumulated pension wealth is returned to the nominee.

The Central Government would also co-contribute 50% of the total contribution or Rs. 1000 per annum, whichever is lower, to each eligible subscriber account, for a period of 5 years, that is, from 2015-16 to 2019-20, to those who join the NPS before 31st December, 2015 and who are not members of any statutory social security scheme and who are not Income Tax payers.

PFRDA:

The Pension Fund Regulatory and Development Authority (PFRDA) is a pension regulatory authority which promotes old age income security by establishing, developing and regulating pension funds and protects the interests of subscribers to schemes of pension funds and related matters. It is also responsible for appointment of various intermediate agencies such as Central Record Keeping Agency (CRA), Pension Fund Managers, Custodian, NPS Trustee Bank, etc.

4. WORLD'S SMALLEST DATA RECORDER MADE OF BACTERIA

The researchers at the Columbia University Medical Center (CUMC) in the U.S. have modified an ordinary laboratory strain of the ubiquitous human **gut microbe Escherichia coli into the world's smallest data recorder**.

- ✚ Researchers have converted this natural bacterial immune system enabling the bacteria to not only record their interactions with the environment but also time-stamp the events.
- ✚ Researchers created the microscopic data recorder by taking advantage of CRISPR-Cas, an immune system in many species of bacteria. CRISPR-Cas copies snippets of DNA from invading viruses so that subsequent generations of bacteria can repel these pathogens more effectively.
- ✚ As a result, the CRISPR locus of the bacterial genome accumulates a chronological record of the bacterial viruses that it and its ancestors have survived. When those same viruses try to infect again, the CRISPR-Cas system can recognise and eliminate them.

Potential applications:

- ✚ This discovery has formed the groundwork for a new class of technologies that use bacterial cells for everything from disease diagnosis to environmental monitoring. Such bacteria, swallowed by a patient, might be able to record the changes they experience through the whole digestive tract, yielding an unprecedented view of previously inaccessible phenomena.
- ✚ Other applications could include environmental sensing and basic studies in ecology and microbiology, where bacteria could monitor otherwise invisible changes without disrupting their surroundings.

5. ISRO IS PLANNING TO LAUNCH ADITYA-L1, INDIA'S MISSION TO THE SUN, IN 2019.

About Aditya- L1 mission:

- ✚ It is India's first solar mission.
- ✚ It will study the sun's outer most layers, the corona and the chromospheres and collect data about coronal mass ejection, which will also yield information for space weather prediction.
- ✚ The data from Aditya mission will be immensely helpful in discriminating between different models for the origin of solar storms and also for constraining how the storms evolve and what path they take through the interplanetary space from the Sun to the Earth.

- ✚ Position of the satellite: In order to get the best science from the sun, continuous viewing of the sun is preferred without any occultation/ eclipses and hence, Aditya- L1 satellite will be placed in the halo orbit around the Lagrangian point 1 (L1) of the sun-earth system.

Lagrangian points and halo orbit

Lagrangian points are the locations in space where the combined gravitational pull of two large masses roughly balance each other. Any small mass placed at that location will remain at constant distances relative to the large masses. There are five such points in Sun-Earth system and they are denoted as L1, L2, L3, L4 and L5. A halo orbit is a periodic three-dimensional orbit near the L1, L2 or L3.

6. WORLD'S FIRST ARTIFICIAL INTELLIGENCE POLITICIAN DEVELOPED:

Scientists have developed the world's first artificial intelligence politician, called **SAM**. The virtual politician, called SAM, was created by Nick Gerritsen, a 49-year-old entrepreneur in New Zealand.

Unique features: SAM can answer a person's queries regarding local issues such as policies around housing, education and immigration. The AI politician is constantly learning to respond to people through Facebook Messenger as well as a survey on its homepage.