Prelim Bits 07-09-2021 | UPSC Daily Current Affairs

Animal Spirits

The government has given an urgent call to action for reviving the animal spirits in the economy.

- 'Animal spirits' is a term coined by the British economist, J. M. Keynes.
- This term refers to the ways that **human emotions and instincts can drive financial decision-making** of investors and consumers in times of economic stress or uncertain environments and volatile times.
- Animal spirits are used to help explain why people behave irrationally, and are the forerunner to modern behavioral economics.
- If spirits are low, confidence levels will be low. This will drive down a promising market - even if the economy fundamentals are strong.
- If spirits are high, confidence among participants in the economy will be high, and market prices will soar.

Wood Wide Web

- It is the term used to describe the underground network of microbes that connects the trees.
- Through this system, the trees exchange carbon dioxide gases between each other (for photosynthesis).
- This system may extend through the whole forest, and help young trees that are struggling on a dry patch for carbon transfer from the luckier trees.

Mutualism is an interaction that confers benefits on both the interacting species.

E.g.: Lichens represent an intimate mutualistic relationship between a fungus and photosynthesising algae or cyanobacteria.

- **Mycorrhizae** are mutualistic associations between fungi and the roots of higher plants.
    - The root-invading fungus gains energy-yielding carbohydrates and other nutrients from the plant.
    - In exchange, the plants get essential nutrients and also difficult-to-find minerals like phosphorus from the microbe.
- **Rhizobacteria** are mutualistic associations between bacteria and roots, and a very wide range of these species are plant growth promoters.
    - These bacteria get sugars from the plants.
    - In exchange, the bacteria help plants ward off pathogens that cause root diseases. They may trigger systemic resistance to a pathogen throughout the plant.

Gambusia Fish to Control Dengue

Firozabad district administration has released Gambusia fish (mosquitofish) that eat dengue-breeding mosquito larvae in ponds.

- This **Insectivorous fish** is known to check the spread of mosquito-borne diseases like malaria and dengue.
- Gambusia eats about 100 larvae daily.
- They are bred in ponds, wells and other shallow water bodies, which are the breeding grounds of mosquitoes.
- This makes them an excellent **biological tool** for mosquito control as they eat the larvae before they develop into adult mosquitoes.
- Besides Gambusia, guppy fish is used to check the spread of mosquito-borne diseases. They are bred in the same manner as Gambusia.
- **A WHO study** said that this strategy of using indigenous or exotic fish species with larvivorous potential (fish that feed on larvae) is potentially safer as it doesn't involve use of insecticides.
- It also states that this strategy is scientifically proven to be effective in malaria control.

Biocontrol

- Biocontrol is the management of a pest or an insect, typically invasive species, using biological agents.
- It is defined as the reduction of pest populations by introducing a natural predator into the environment.
- Also known as Biological Control or natural control, it is a component of an integrated pest management strategy.
- Examples of biological control agents are predators, parasitoids, pathogens, insects, nematodes, etc.,

Vaccine Passport

- It is a certification of the Covid-19 health status of a citizen, approved by inter-governmental bodies, which can be carried physically or digitally.
- Covid-19 vaccine passports refer to a person's vaccination status, recent infection record or a recent RT-PCR test result that shows no infection.
- A version of the certification adopted by International Air Transport Association is being rolled out by all major international carriers.
- **Beneficiaries** - Countries whose economies rely on tourism can look forward to improved tourist flow if there can be international standards evolved on vaccine passports.
- Such certification can help people moving across international borders.
- It can be a ticket to attend indoor events or restaurants in countries with high vaccination rates, to promote mobility within their economies.
- Even in regional/domestic economies, non-travel related activities which rely on physical presence can restart, with such passports.
- **WHO's Stand** - The WHO had said that proof of vaccination not be required for movement.
- But on presenting such proof, nations could relax measures relating to testing and quarantine for such travellers.
- This can benefit travellers who are fully vaccinated 2 weeks prior by 'approved vaccines'.
- Related Links - European green pass and Emergency Use Authorization.

Inspiration4

SpaceX is going to launch 'Inspiration4', the world's 1st all-civilian, non-governmental spaceflight soon.

- This mission will take 4 private citizens into space in the Crew Dragon spacecraft, which will be privately operated by SpaceX.
- This mission involves circling the Earth for 3 days at the height of 575km (low Earth orbit), and then splashing down into the Atlantic Ocean.
- This will be the farthest distance travelled by a crewed mission since 2009, when astronauts went to repair the Hubble telescope (547km).
- The dome window has been inspired by the Cupola, a module on the International Space Station used to make observations about our planet.
- **Significance** - The journey will present an opportunity for collecting many health data that will aid in planning future crewed space missions.
- This will help in assessing behavioural and cognitive changes over the journey.
- The travellers will undergo balance and prescription tests just before and after their journey to assess their response to the change in gravity.

Source: PIB, The Hindu, The Indian Express, New Indian Express, Science, Space, News18

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