

M S SWAMINATHAN: MAN OF SCIENCE AND HUMANITY

Context

- Dr M.S. Swaminathan, the **legendary agricultural scientist**, has passed away. But his legacy remains with every student and scientist of agriculture.
- He is **most widely known for working with Norman Borlaug to usher in the Green Revolution in India in the mid-1960s when India was facing back to back droughts.**

The Green Revolution

- The Green Revolution was an endeavour initiated by **Norman Borlaug** in the 1960s. He is known as the '**Father of Green Revolution**' in world.
 - It led to him winning the **Nobel Peace Prize** in 1970 for his work in developing **High Yielding Varieties (HYVs) of wheat.**
- In India, the Green Revolution was mainly led by **S. Swaminathan.**
- The Green Revolution resulted in a **great increase in production of food grains** (especially wheat and rice) due to the introduction into developing countries of new, HYV seeds. Its early dramatic successes were in **Mexico and the Indian subcontinent.**
- The Green Revolution, spreading over the period from 1967-68 to 1977-78, **changed India's status from a food-deficient country to one of the world's leading agricultural nations.**

The Role of Dr M S Swaminathan in India's Green Revolution

- **Invitation to Norman Borlaug to Come to India in a Challenging Time**
 - Swaminathan wrote to Borlaug and suggested to the then IARI director B P Pal to invite him to India.
 - Borlaug had agreed to send the seeds of his newly-bred material, but only after studying the growing conditions here. **Borlaug finally arrived in March 1963.**
- **Seed Experimentation**
 - After visiting major wheat-growing areas of North India, **Borlaug sent about 100 kg of seeds of the four Mexican varieties in October 1963.**

- These were sown in the 1963-64 rabi season at IARI and also trial fields in Pantnagar and Kanpur (UP), Ludhiana (Punjab) and Pusa (Bihar).
- **Encouraged by the results, Swaminathan proposed that the performance of the high-yielding strains be tested in actual farmers' fields.**
- **Persuaded the Government to Import Seeds:** Swaminathan worked hard to convince the Indian political leadership to import 18,000 tonnes of seeds of high-yielding dwarf wheat varieties, Lerma Rojo and Sonora-64, from Mexico.
- **Tests in Actual Farmers' Fields**
 - In November 1964, farmers of Jaunti village in Delhi planted Sonora 64 and Lerma Rojo 64A wheat. Most of them harvested 4 tonnes and some even 4.5 tonnes per hectare.
 - The planting of those seeds by farmers led to India's foodgrain production surging to 95 mt in 1967-68 and 108.4 mt by 1970-71.
 - Wheat output alone rose from 11.4 mt in 1966-67 to 16.5 mt in 1967-68 and 23 mt in 1970-71.
- **Indigenisation of Imported Seeds**
 - By the late sixties, Indian scientists had also bred their own Kalyansona and Sonalika wheat varieties through selection of segregated lines from the Mexican lines.
 - These produced amber-coloured grain with better chapati-making quality than the imported red wheats.

Conclusion

- Some dreams of Swaminathan remain unfulfilled **regarding pricing policies and profitability of farmers.**
- Most farmers in India today know of the **Swaminathan formula** even if they may not know of the legendary agricultural scientist's stellar role in ushering in the Revolution that made the country self-sufficient in foodgrains.
- As climate change and depleting natural resources become greater challenges today, his vision of an "**evergreen revolution**" (productivity gains - that are sustainable without inflicting environmental or social harm) must be adopted.

ECONOMIC ADVISORY COUNCIL TO THE PRIME MINISTER (EAC-PM)

A member of the Economic Advisory Council to the Prime Minister recently said India will soon have the capability to issue 1,00,000 patents in a year.



About Economic Advisory Council to the Prime Minister (EAC-PM):

- It is an **independent body** constituted to **give advice on economic and related issues** to the Government of India, specifically to the Prime Minister.
- It was set up for the first time in September 2017 with a term of two years.
- **Terms of Reference:**
 - **Analyzing any issue**, economic or otherwise, referred to it by the Prime Minister and advising him thereon, addressing issues of macroeconomic importance, and presenting views thereon to the Prime Minister.
 - These could be either suo-motu or on reference from the Prime Minister or anyone else.
 - **Attending to any other task** as may be desired by the Prime Minister from time to time.
- **Composition:**
 - EAC-PM is **headed by a Chairperson** and consists of **eminent economists** as members.
 - It is supported in its functions by a **team of officials and administrators**.
 - There is **no fixed definition of the exact number of members and staff** of the EAC-PM.
 - It is **common for the Council to be reconstituted time and again** with different organizational structures headed by various economists who are of recognized international eminence.
 - **For administrative, logistic, planning, and budgeting purposes**, the NITI Aayog serves as the nodal agency for the EAC-PM.

What is a Patent?

- A patent is an **exclusive right granted for an invention**, which is a product or a process that provides, in general, a new way of doing something, or offers a **new technical solution to a problem**.

- To get a patent, technical information about the invention must be disclosed to the public in a patent application.
- In principle, the patent owner has the exclusive right to prevent or stop others from commercially exploiting the patented invention. In other words, patent protection means that the invention cannot be commercially made, used, distributed, imported, or sold by others without the patent owner's consent.
- Patents are territorial rights. In general, the exclusive rights are only applicable in the country or region in which a patent has been filed and granted, in accordance with the law of that country or region.
- The protection is granted for a limited period, generally 20 years from the filing date of the application.

TOBACCO WARNINGS NORMS FOR OTT

Why in news?

- The govt started facing a strong pushback from streaming giants such as Netflix, Amazon etc., after the new rules on Tobacco warning came into force on September 1.
- As a result, it is working to find pragmatic solutions to the OTT industry's concerns over the practicability of the order mandating display of anti-tobacco warnings.

OTT platforms

- About
 - OTT platforms, or Over-the-top platforms, are web-based services that deliver video and audio content directly to viewers over the internet.
 - OTT platforms bypass traditional cable, broadcast, and satellite television platforms.
- OTT platforms in India
 - OTT streaming platforms have seen rapid adoption in India on the back of growing penetration of affordable smartphones and cheap internet tariffs.
 - As a result, the country now plays host to a slew of domestic and global players such as Netflix, Amazon Prime, Disney+ Hotstar, Zee5 and the recent entrant Reliance-backed JioCinema.

- A report estimates the homegrown OTT market to soar to a market size of \$12.5 Bn by 2030.

India's performance in tobacco control

- India has the **highest level of achievement** when it comes to putting health warning labels on tobacco products and providing tobacco dependence treatment.
- With 85% of cigarette packs carrying health warnings both on the front and back, India figures among the top 10 countries in terms of the size of health warnings.
- The cigarette packets in the country also carry a toll-free number for a quit-line.

What are the steps taken by India?

● Warnings on OTT platform

- One of the biggest steps is **implementing warnings on OTT platform** content when actors are seen using tobacco products.
- This would make India the first country in the world to do so.

● Cigarette and Other Tobacco Products Act (COTPA) 2003

- It regulates the advertisement, promotion, and sponsorship of tobacco products, **prohibits smoking in public places**, mandates prominent and graphic **pictorial health warnings** on tobacco product packaging, and sets rules for the sale of tobacco products to minors.

● Tobacco Advertising and Promotion

- Direct and indirect advertising of tobacco products, as well as tobacco sponsorship of events, are regulated to discourage tobacco consumption.

● Tobacco Taxation:

- The Indian government has periodically increased taxes on tobacco products to make them less affordable and discourage consumption.

● National Tobacco Control Program (NTCP)

- India established the NTCP to implement tobacco control strategies at the national, state, and district levels.
- The program focuses on awareness generation, capacity-building, and strengthening enforcement mechanisms.

FIVE EYES' INTELLIGENCE ALLIANCE

The recent allegations by Canadian Prime Minister Justin Trudeau linking the killing of Hardeep Singh Nijjar on Canadian soil to the Indian government have put the spotlight on the intelligence-sharing alliance 'Five Eyes' (or FVEY).



About Five Eyes' intelligence alliance:

- It is a **multilateral intelligence-sharing network** shared by over 20 different agencies of five English-speaking countries — **Australia, Canada, New Zealand, the United Kingdom and the United States.**
- It is both surveillance-based and signals intelligence (SIGINT).
- Intelligence documents shared between the members countries are classified as '**Secret—AUS/CAN/NZ/UK/US Eyes Only,**' which gave the group its title 'Five Eyes.'

Background of the alliance

- The alliance between **the U.S. and the U.K.** evolved around the Second World War to counter the Cold War Soviet threat.
- The two countries, which had successfully deciphered German and Japanese codes during the World War, forged a collaboration to share intelligence related to signals such as radio, satellite and internet communications.
- In the aftermath of the war in 1946, the alliance was formalised through an agreement for cooperation in signals intelligence.
- The treaty called the British-U.S. Communication Intelligence Agreement, **or BRUSA (now known as the UKUSA Agreement)**, was signed between the State-Army-Navy Communication Intelligence Board (STANCIB) of the U.S. and the London Signal Intelligence Board (SIGINT) of Britain.
- Its scope was limited to “communication intelligence matters only” related to “unrestricted” exchange of intelligence **products in six areas:** collection of traffic; acquisition of communication documents and equipment; traffic analysis; cryptanalysis; decryption and

translation; and acquisition of information regarding communication organisations, practices, procedures, and equipment.

- The arrangement was later extended to **‘second party’ countries** —Canada joined in 1948, while Australia and New Zealand became part of the alliance in 1956.

GLOBAL INNOVATION INDEX 2023

India retains 40th rank out of 132 economies in the Global Innovation Index 2023 rankings.



About Global Innovation Index 2023:

- It is published by the **World Intellectual Property Organization**.
- It is a reliable tool for governments across the world to **assess the innovation-led social and economic changes** in their respective countries.
- This year, the NITI Aayog, in partnership with the CII and the World Intellectual Property Organisation (WIPO), is hosting, virtually, the India Launch of the GII 2023 on 29th September 2023.

Key findings

- The Global Innovation Index is built on a rich dataset – **the collection of 80 indicators from international public and private sources** – going beyond the traditional measures of innovation since the definition of innovation has broadened.
- **Top 5 countries:** Switzerland, Sweden, United States, United Kingdom (4th) and Singapore (5th).
- It listed India as among the 21 economies that outperformed for a 13th consecutive year on innovation relative to level of development.
- It states that India, Iran, Philippines, Turkiye, Vietnam and Indonesia are among the economies within the GII top 65 that climbed fastest in the ranking over the last decade.
- India holds top ranking within the Central and Southern Asia region for **Human capital and research** (48th), **Business sophistication** (57th) and **Knowledge and technology outputs** (22nd).

- Strong indicators include ICT services exports (5th), Venture capital received (6th), Graduates in science and engineering (11th) and Global corporate R&D investors (13th).

Key facts about the World Intellectual Property Organisation

- It works with the vision of encouraging **creative activity and promoting** the protection of Intellectual Property throughout the world.
- WIPO is one of the 15 **specialised agencies of the United Nations**.
- Currently, there are **193 members** of the World Intellectual Property Organisation.
- **Headquarter:** Geneva.

IATA, ICAO & HOW AIRPORT CODES ARE DECIDED

Why in News?

- The upcoming Noida International Airport (NIA) in Jewar was awarded its own unique international three-letter code, 'DXN', by the International Air Transport Association (IATA).

About Airport Codes:

- Airport codes are unique identifiers assigned to each airport.
- Airport coding first began in the 1930s, in the very early days of commercial aviation.
- At the time, airlines and pilots typically chose their own two letter codes to identify destinations.
- However, by the 1940s, as the number of airports grew exponentially, a system of three letter codes was devised (allowing for a far higher number of combinations) and eventually standardised in the 1960s by the **International Air Transport Association (IATA)**.
- At present, **each airport has two unique codes**:
 - One code is assigned by the **IATA**,
 - The other is assigned by the **International Civil Aviation Organization (ICAO)**.
- Both are used to accurately identify airports, but in different contexts.

IATA Code:

- The **three-digit codes** assigned by the IATA are used for passenger facing operations — on tickets, boarding passes, signages, etc.

- For example, the newly built Jewar airport has been assigned 'DXN' code.

ICAO Code:

- The **four-digit codes** assigned by the ICAO, on the other hand, are used by industry professionals such as pilots, air traffic controllers, planners, etc.
- For example, for the Indira Gandhi International Airport in Delhi, the IATA code is DEL whereas the ICAO code is VIDP.

About International Air Transport Association (IATA):

- IATA is a trade association of the world's airlines founded in **1945**.
- **Objective:** To support airline activity and helps formulate industry policy and standards.
- It sets technical standards for airlines across the world.
- Currently, IATA **represents some 300 airlines comprising 94%** of the international scheduled **air traffic**.
- IATA members include the **world's leading passenger and cargo airlines**.
- **Headquarters:** Montreal, Canada

About International Civil Aviation Organisation (ICAO):

- ICAO is an **intergovernmental specialized agency** associated with the United Nations (UN).
- It was established in **1947** by the Convention on International Civil Aviation (1944) known as **Chicago Convention**.
- **Headquarters:** Montreal, Canada