Role of CSIR in Nation Building

Why in news?

The Council of Scientific and Industrial Research (CSIR) is committed to make India 'Atmanirbhar' by developing indigenous technologies

Council of Scientific and Industrial Research
• **Established-** 1942 • **Founders-** Arcot Ramasamy Mudaliar and Shanti Swarup Bhatnagar • **Headquarters-** New Delhi • **Autonomous body**- CSIR is operated under ***Societies Registration Act, 1860***. • **President**- Prime Minister of India • **Vice President-** Ministry of Science and Technology • **Mission**- To provide scientific industrial research and development that maximizes the economic, environmental and societal benefits for the people of India. • **CSIR@2030 vision-** To enhance quality of life of the citizens of India through innovative Science and Technology, globally competitive R&D, by developing sustainable solutions and capacity building to fulfil dream of Atmanirbhar Bharat. • **Journals-** ***Science Reporter*** in English, Hindi and Urdu. • **Self-sufficiency**- CSIR, through its 37 laboratories across the country, are involved in all aspects of their research and development which can bring 'Atmanirbharta'. • **Shanti Swarup Bhatnagar Prize**- It was established by CSIR in 1958, the purpose of the award is to recognise outstanding Indian work in science and technology. • **Scimago Institutions Ranking World Report 2021**- CSIR is ranked 37th among 1587 government institutions worldwide and is the only Indian organization among the top 100 global government institutions. • **Significance-** CSIR holds the 7th rank in Asia and leads the country at the first position.

What are the key initiatives taken by CSIR to make India Atmanirbhar?

CSIR Aroma Mission

- **Launch year**- 2016
- **Aim-** To increase the income of farmers through cultivation of high value and high demand aromatic crops by about Rs. 30,000 to 60,000 per hectare per year.
- It provides planting materials, distillation units and training in extraction.
- **Purple revolution**- CSIR developed an elite variety of lavender suitable for cultivation in the temperate regions of J&K which provided end-to-end agro-technologies to farmers.
- It has started from Jammu and Kashmir and transformed the lives of farmers who are able to grow lavender, make lucrative profit and improve their lives.
- **Lemongrass oil**- India, which had been importing lemongrass oil for years, became an exporting country by 2023, it exported 600 million tons of lemongrass oil.
- **Agri-startups**- CSIR actively supports over 300 agri-startups in Jammu and Kashmir,

demonstrating a commitment to the region's progress.

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- **Launch year-** 2023
- **Women friendly**-It is India’s first women friendly, compact, Electric Tractor indigenously developed by CSIR, under agro-mechanical technology.
- **Indigenization-**The entire tractor has been designed and manufactured with indigenous components and technologies.
- **Net zero target-** India has the target to achieve Net Zero carbon emission by 2070 pledged at COP 26 Glasgow summit.
- **Global leader**- This development will trigger to lead India in the global tractor industry with revolutionary vision of “Make for the World”.

Hydrogen hydrate producing manufacturing facility

- **Launch year**- 2022
- **Commercial production**- It produces around 10,000 tonnes per annum-manufacturing plant.
- **Applications-** Chemical industries, processing industries, and several other chemistry-related and pharmacy-related industries.

Sustainable Aviation Fuel

- It is a type of jet fuel produced from *sustainable feedstocks* that reduces carbon emissions over the lifecycle of the fuel.
- Airbus and CSIR-Indian Institute of Petroleum sign Memorandum of Understanding to develop indigenous Sustainable Aviation Fuel (SAF) in India.
- The collaboration aims to support SAF production and commercialization using a new HEFA technology pathway and locally sourced fee ..
- The partnership will address decarbonisation goals and make India a global SAF production hub.

C-Bot

- It is an *underwater unmanned vehicle* indigenously developed by the ***National Institute of Oceanography***.
- It can carry a number of equipment, sensors and gadgets to 200 metres deep into the water, which will help the scientists study the undersea ecosystem.
- C-Bot will aid scientists in studying the undersea ecosystem, collecting samples, and exploring climate-related topics across the vast Indian Ocean.

CSIR-Jigyasa Student-Scientist Connect Program

- It is an initiative of CSIR to promote scientific temper through student scientist connect program.
- **Aim-** To focus on school and college students along with teachers to inculcate the culture of inquisitiveness on one hand and scientific temper on the other.
- The program will also enable the students and teachers to practically live the

theoretical concepts taught in science by visiting CSIR laboratories and using the knowledge to take up small projects, compete in quiz and also apply to their knowledge for the betterment of society.

Quick facts

National Institute of Oceanography
• **Established**- 1966 • **Origin**- One of the important outcomes International Indian Ocean Expedition was the establishment of Indian Ocean Biology Centre which was transformed into NIO. • **Headquarters-** Goa • **Regional office**- Kochi, Mumbai and Visakhapatnam • **Mission-** To continuously improve our understanding of the seas around us and to translate this knowledge to benefit all. • **Research vessels**- RV Sindhu Sankalp and RV Sindhu Sadhana, both are equipped for multidisciplinary oceanographic observations.

References

1. CSIR- About CSIR
2. PIB- CSIR committed to Atmanirbhar India

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