Science Diplomacy

This article is based on **"Art of Science Diplomacy"** which was published in The Indian Express on 04/01/2020. It talks about the importance of science diplomacy in dealing with climate change.

In contemporary times, climate change is one of the most challenging global issues that countries are facing. No nation on its own has the capacity, infrastructure and human resources to address this massive challenge that the earth and mankind faces.

In this context, Science and Technology (S&T)-led innovation offers an opportunity to address climate change. Therefore, science diplomacy needs to be pursued by the countries so that the international collaborations in S&T innovation can be increased.

Science diplomacy is the use of **scientific** collaborations among nations to address common problems and to build constructive international partnerships.

The impact of climate change can be depicted in the following cases

- **Hockey Stick Graph:** It shows that the earth's temperature was relatively stable for 500 years. However, it spiked sharply in the 20th century.
  This rise was unprecedented across the last millennium. It was interpreted as coinciding with humanity's use of fossil fuels.
- The planet's average surface temperature has risen about 0.90C since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere.
- Most of the warming occurred in the past 35 years, with the five warmest years on record taking place since 2010.
- **Melting Polar Caps:** The Greenland and Antarctic ice sheets have decreased in mass.
  - Data from NASA show Greenland lost an average of 286 billion tons of ice per year between 1993 and 2016, while Antarctica lost about 127 billion tons of ice per year during the same time period.
  - The rate of Antarctica ice mass loss has tripled in the last decade.

- **Global sea level rose** about 8 inches in the last century.
    The rate of rising of the sea is nearly double that of the last century and is accelerating slightly every year.
- **Ocean Acidification:** Since the beginning of the Industrial Revolution, the acidity of surface ocean waters has increased by about 30 percent.
    - This increase is the result of humans emitting more carbon dioxide into the atmosphere and hence more being absorbed into the oceans.
    - The amount of carbon dioxide absorbed by the upper layer of the oceans is increasing by about 2 billion tons per year.

Science as a tool for diplomacy has been used for several decades and by many countries around the world. However, with the increasing importance of S&T innovations in achieving **UN Sustainable Development Goals** (SDGs), addressing climate change, etc, **science diplomacy** has assumed greater significance.

Science diplomacy, thus, is a crucial policy dimension in tackling climate change and the **world can learn from India on this front.**

- **The Global Innovation and Technology Alliance (GITA)** was launched by India a few years ago.
    - It has provided an enabling platform for frontline techno-economic alliances.
    - Enterprises from India are tying up with their counterparts from partner countries including Canada, Finland, Italy, Sweden, Spain, and the UK.
    - This industry-led collaboration, with the government as an equal partner, is aimed at supporting the last phase of technology-based high-end, affordable product development which can connect to both global and domestic markets.
- **The India-led International Solar Alliance (ISA),** with more than 79 sunshine countries as signatories and nearly 121 prospective countries as partners, is another excellent example of modern-day science diplomacy.
    - The vision and mission of the ISA is to provide a dedicated platform for cooperation among solar resource-rich countries.
    - Such a platform can make a positive contribution towards achieving the common goals of increasing the use of solar energy in meeting the energy needs of member countries in a safe, affordable, equitable and sustainable manner.

- The **Global Coalition for Disaster Resilient Infrastructure** (CDRI) was recently announced by Prime Minister Narendra Modi at the UN Climate Action Summit in New York.
    - The CDRI is yet another example of international partnership piloted by India in consultation with 35 countries that will support developed and developing nations in their efforts to build climate and disaster-resilient infrastructure, required to face the vagaries of climate change.
    - The CDRI will provide member countries with technical support and capacity development, research and knowledge management, and advocacy and partnerships.
    - It is aimed at risk identification and assessment, urban risk and planning, and disaster risk management.

Conclusion

Recently, **Madrid talks on climate change** have resulted in disappointment. Therefore, in order to design and develop effective tools for international engagement through S&T, the world requires the proactive engagement of the scientific and technological community with stakeholders including the polity, the diplomatic corps and the knowledge enterprises, etc.

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Science and technology-led innovation offers an opportunity to address climate change. In this context, science diplomacy needs to be pursued by the countries so that the international collaborations in S&T innovation can be increased. Discuss