Draft National Science Technology and Innovation Policy

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Department of Science and Technology releases the draft 5th draft of the 5th National Science Technology and Innovation Policy(STIP) for public consultation

Vision of STIP

The STIP will be guided by its broad vision of

- **Achieving technological self-reliance and position India among the top three scientific superpowers in the decade to come**
- To **attract, nurture, strengthen** and retain critical human capital through a '**people centric' science, technology and innovation (STI) ecosystem,**
- **To double the number of Full-Time Equivalent (FTE) researchers, Gross Domestic Expenditure on R&D (GERD**) and private sector contribution to the GERD every 5 years and
- **To build individual and institutional excellence in STI** with the aspiration to achieve the highest level of global recognition and awards in the coming decade.

Aims & Objectives

- It aims to bring about profound changes through short, medium and long-term mission mode projects by building a nurtured ecosystem that promotes research and innovation on the part of both individuals and organizations.
- It aims to foster, develop, and nurture a robust system

for evidence and stakeholder-driven Science, Technology, and Innovation(STI) planning, information, evaluation, and policy research in India.

- It also aims to create an accountable research ecosystem, promoting translational as well as foundational research in the country in alignment with global standards.
- The objective of the policy is to **identify and address strengths and weaknesses of the Indian STI ecosystem to catalyse socio-economic development of the country** and also make the Indian STI ecosystem globally competitive.

Key features of Science Technology and Innovation Policy(STIP)

- **STI Development Bank:** The policy also envisages the formation of an STI Development Bank **for direct investments on various long and medium-term projects** in select strategic areas, commercial ventures, start-ups, technology diffusion and licensing.
- **LGBTQ+ representation and retention in STI:** the draft policy states that the lesbian, gay, bisexual, transgender, queer (LGBTQ+) community will be included in gender equity conversations with special provisions to safeguard its members' rights and promote their representation and retention in STI
- **National STI Observatory:**
  - The policy will lead to the establishment of a National STI Observatory that will act as a central repository for all kinds of data related to and generated from the STI ecosystem.
  - It will encompass an open centralised database platform for all financial schemes, programmes, grants and incentives existing in the ecosystem.
- **Open Science Framework:** As per the daft policy, an all-encompassing Open Science Framework will be built to provide access to scientific data, information,

knowledge and resources to everyone in the country and all who are engaging with the Indian STI ecosystem on an equal partnership basis.

- **Dedicated portal:** A dedicated portal to provide access to the outputs of such publicly-funded research will be created through the Indian Science and Technology Archive of Research (INDSTA).
- **Access to journals:** STIP also proposes to create pathways for the government to negotiate with journal publishers for a "one nation, one subscription" policy, whereby, in return for a centrally-negotiated payment, all individuals in the country will have access to journal articles.
- **Improve STI education:** Proposed policy also talks about strategies to improve STI education, making it inclusive at all levels and more connected with the economy and that the society will be developed through processes of skill building, training and infrastructure development.
  - It also proposes to establish **education research centres (ERCs) and collaborative research centres (CRCs)** to provide research inputs to policymakers and bring together stakeholders.
- **STI units in various agencies:** In order to expand the financial landscape of the STI ecosystem, each department or ministry in the central, state and local governments, public sector enterprises, private sector companies and startups will set up an STI unit each with a minimum earmarked budget to pursue STI activities.
- **States to earmark percentage of the state allocation for STI-related activities: the draft policy also states that** each state will earmark a percentage of the state allocation for STI-related activities under a separate budget head.
  - Foreign Multi National Companies (MNCs) will collaborate with domestic private and public sector entities on projects aligned to national

needs and priorities

- **Hybrid funding models:** It also proposes that hybrid funding models with enhanced participation from public and private sectors will be created through the Advanced Missions in Innovative Research Ecosystem (ADMIRE) initiative.
- **Research and Innovation Excellence Frameworks (RIEF):** It will be developed to enhance the quality of research along with the promotion of engagements with the relevant stakeholders
- The new policy, STIP, revolves around the core principles of being decentralized, evidence-informed, bottom-up, experts-driven, and inclusive.
- **Dynamic policy: It also aims to bring in the concept of 'dynamic policy' with a robust policy governance mechanism** incorporating features such as implementation strategy, periodic review, policy evaluation, feedback, and adaptation, and most importantly, a timely exit strategy for various policy instruments.

Significance

As India and the world reorient in the present context of the COVID-19 crisis, a new Science, Technology, and Innovation Policy (STIP) was initiated at this crucial juncture during mid-2020.

For India to march ahead on a sustainable development pathway to include economic development, social inclusion and environmental sustainability for achieving an "Atmanirbhar Bharat", a greater emphasis may be needed on promoting traditional knowledge systems, developing indigenous technologies and encouraging grassroots innovations.

The emergence of disruptive and impactful technologies poses new challenges and simultaneously greater opportunities.