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Science, Innovation and Technology Policy 2020

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The government has initiated a consultation process for formulation of a new national **Science, Technology and Innovation Policy (STIP)**. The **Office of the Principal Scientific Adviser** to the Government of India and the **Department of Science and Technology** have jointly initiated a decentralised, bottom-up and inclusive process for the formulation of the new policy.

Need for a New Policy

- Using Science, Technology and Innovation is an important pillar in attaining the **Sustainable Development Goals (SDG)**
- Facilitating optimum utilisation of Artificial Intelligence to have a great impact on humankind as far as development

- Harnessing human resources for transforming India into a knowledge economy.
- To bring out latent strengths such as demographic dividend
- The STI policy is a basic pillar in fulfilling the notion of **Aatmanirbhar Bharat**.
- Value creation in India through Research & Development.
- To create indigenous technologies to cater to domestic needs within the country instead of outsourcing.
- Attracting patents and technology from abroad which might augment our efforts in dealing with Covid19 pandemic.

Key Points

- This is the **fifth Science & Technology Policy** of the country, being formulated at a crucial juncture when India and the world are tackling the **Covid-19** pandemic.
- **Organised into tracks:** The process is organised into **4 highly interlinked tracks**, which will reach out to around **15000 stakeholders** for consultation in the policy formulation.
- **Public dialogue (Track-I):** It will include a public dialogue series with thought leaders & policy scholars, a thematic panel discussion with public engagement, targeted survey instruments, print media articles and channels for written inputs, community podcasts for last-mile connectivity.
- **Expert consultations (Track-II):** It comprises experts-driven thematic consultations to feed evidence-informed recommendations into the policy drafting process. Twenty-one (21) focused thematic groups have been constituted for this purpose.
- **Ministerial consultations (Track-III):** It involves consultations with Ministries and States.
- **Multi Stakeholder consultations (Track-IV):** It constitutes apex level multi-stakeholder consultation.

The previous Four S&T Policies

- **Scientific Policy Resolution 1958:**
 - SPR 1958 laid the foundation of the scientific enterprise and scientific temper in India.
- **Technology Policy Statement 1983:**
 - The primary feature of TPS 1983 was technological self-reliance through promotion and development of indigenous technologies.
 - Adoption of indigenous technology would reduce vulnerabilities in critical areas and would help maximise the utilisation of local (human and material) resources.

- **Science and Technology Policy 2003:**
 - Its aim was to keep up the pace with science and technology, to stay competitive in an increasingly globalised world and to meet the primary goal of equitable and sustainable development.
 - It called to invest heavily in the research and development sector with the aim of increasing investment to 2% of the **Gross Domestic Product** (GDP).
- **Science, Technology and Innovation Policy 2013:**
 - The decade of 2010 to 2020 was declared as a decade of innovation.
 - It was acknowledged that in order to stay globally competitive, it was necessary to make a transition into a knowledge-based economy.
 - This policy document was a step in the direction towards building a robust national innovation ecosystem.

Recommendations and Input for Stakeholders

- From an industry perspective, the policy should be used as a mechanism to empower our domestic industry.
- Semiconductors, telecom and electronics are no more tangential industries. Now they are one of our core industries. The needs of these industries are to be fulfilled too. We need to create technologies on our own besides, enhance our own capabilities.
- India having such a large market for the other countries hence, it should provide a value addition based market linkage.

Challenges For STIP

- **Financing:** STIP faces the challenges of how to finance the R&Ds and startups and what role do the industries and government play in it.
- **Enhancing quality:** STIP has to play a key role in enhancing the profoundness, quality and the relevance of our basic researches.
- **Gender parity:** Geographic representation of women is not always very balanced while active participation includes all of the people of the country.
- **Equal Involvement:** Not all great ideas come from PhD holders, a farmer knows what are challenges faced by him and what are his needs so he could provide better solutions for himself. The challenge is to have equal involvement from all the sectors.
- **Implementation:** The governance and proper implementation of this policy in order to obtain maximum benefits still exists as a challenge.
- **Collaboration:** Innovation does not take place with a homogenous system of working, it will occur when different minded people and systems are brought together.

Way Forward

- The pandemic has been proving as a golden opportunity for India to turn itself into a world power within the coming future in such a time of global turmoil. It is a high time to turn the tragedy into opportunity.
- The advantage of this policy should be taken and bring together the knowledge (academia) and economy (industry) to work.
- Areas in the country that are important from the point of view of r&d and s&t to be selected and go the whole hog in making an impact on them.
- Students need to be exposed to the technology platforms at the early but correct age. The technology platforms are: information technology, biotechnology, nanotechnology, cognitive technology and quantum technology.
- Innovation needs to be prioritised, all other fields will eventually go hand in hand.
- Academia has a bigger role to play in bringing the industries and government together.