

“INNOVATION – A PATHWAY TO INDIA’S HOLISTIC DEVELOPMENT”



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“Throughout history innovation has been one of the most powerful means of driving growth and prosperity of nations. This is especially true in modern times where innovation in every field is taking place at such a pace that failing to do so can sound the death knell for economies.”
-India Innovation Index, NITI Aayog.

The concept of innovation is as old as mankind itself. The history of civilisations has been a story of human beings learning newer, easier, and more efficient ways of carrying out necessary activities that are new to entire human kind. From development of the wheel to the creation of the internet, innovation has been the factor that has distinguished between survival and lifestyle of human beings from other animals. It is almost impossible to imagine a modern world without earlier innovations.

India has historically been at the pinnacle of innovation in a large variety of fields including urbanization (Indus Valley Civilization), metallurgy (Iron Pillar of Delhi), Algebra (invention of the Zero) or Science (Raman Effect) among many others.

Concept:

As defined in the World Bank report titled "*Innovation Policy - A Guide for Developing Countries*", innovation involves the process of creating a new idea in a given context and its successful dissemination into the society. It drives the human beings to find new and efficient ways of solving problems with resultant benefits to different stakeholders of the society. Innovation is seen as an important factor that contributes in driving economic progress and social welfare for any country.

Need Considering future prospect of India, we may find some of the following reasons to focus on innovation:

India aspires to become a five trillion dollars economy and a modern superpower State, sustainable development is essential. This will only come from new indigenous innovations

and it's monetization.

We struggle to solve important basic problems like inclusive education, affordable health services, profitable agriculture, proper waste management, rapid and sustainable urbanisation among many others. This requires innovation to be the central driver for growth across all sectors ranging from social causes to sciences. World is moving towards new era technologies like electric vehicles, biotechnology, nano technology, space, alternative energy sources and most importantly Industry 4.0 which focuses on hyper connectivity, cloud storage, cybersecurity, artificial intelligence, fintech, and smart travel, India should not be left behind from gaining the benefits of this disruptive technologies.

Probable Constraints:

Key challenges that we need to overcome to become an innovation led society: Low Public funding on Research and Development (R&D); while R&D expenditure in India tripled in the period from 2004-05 to 2014-15, its size as a percentage of GDP remained at 0.7 per cent. This is very low compared to the countries Israel (4.3 percent), China (2 per cent) and Brazil (1.2 per cent) of their GDP on R&D.

Low Private sector investment on R&D: while the share of the private sector in R&D investment in most technologically advanced countries is as high as 65 per cent to 75 per cent, it is only about 30 per cent in India.

Inadequate results from Government schemes for innovation : Existing schemes for innovation suffer from duplication of efforts, long approval times and lack of clear evaluation guidelines.

Weak linkage between research, higher education and industry : adversely impacted employability, profitability and the growth of adequately trained scientific workforce.

Way Forward:

Better approach towards Innovation to address India's socio-economic challenges in key sectors and fields:

Evaluation of existing government schemes in research and innovation on the basis of scheme's objective, it's socio-economic viability and available funds. Then consolidation

of well-functioning schemes and on new high-priority areas. Developing clear guidelines for Public-Private Partnerships (PPPs) in the field of innovation ensuring adequate funding for demand-driven, feasible and relevant R&D projects.

Collaboration between the public and private sector can be enhanced by creating a platform which facilitates sharing of facilities, talent and research goals.

Rethinking the Teaching-Research-Industry Links to create an environment of affordable, competitive and autonomous innovation and incubation hubs.

Effective Mechanism for monitoring the progress of public projects so as to maximize the societal impact of projects as well as strategies for the deployment of technologies in a timely manner.

Encourage world to innovate, design and build products in India that would help in integration of knowledge, improvement in quality of domestic research and propel job creation.

Encourage innovative thinking at the school level, a provision to evaluate a student's proven track record of innovation (e.g. awards and patents among others) should be introduced at the admission stage for higher education institutions.

Acknowledging the importance of Innovation as a powerful medium to empower the common citizens of the country, The Vice President of India, Shri M. Venkaiah Naidu has called for creating a National Innovation Movement to promote path-breaking ideas and innovations that improve the living conditions of the people and generate wealth. According to him, It is a need of time to create problem-solving Indian, who are ready to take new challenges and are willing to learn from failures to make a new India which will be Atmanirbhar Bharat.

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