A call to action for Indian venture capitalists

(Mains GS 3 : Awareness in the fields of IT, Space, Computers, robotics, Nano-technology, bio-technology and issues relating to intellectual property rights.)

Context:

> If there was a large, liberal pool of patient investment capital, it is highly probable that there would be tremendous scope for a greater number of Indian innovators and startups to develop, test, and enhance AI and Deep Tech-enabled products and services.

Accelerating tech development:

- Disruptive technologies such as Artificial Intelligence (AI), Machine Learning, 3D Printing, Advanced Materials, Internet of Things (IoT), Blockchain and Augmented & Virtual Reality are being adopted at increasing rates by large companies, new ventures and even governments.
- These technologies have yielded a litany of economic, societal, and environmental benefits.
- For example, AI is being applied to determine the right schedule for farmers to apply their anti-pest solutions based on localised advice, which helps improve their yield and income.
- 3D Printing techniques are being used to build prosthetic limbs, and Blockchain is being used to collect feedback digitally to track meal distribution operations of large charities.

Startups at the forefront:

- Developing successful Deep Tech solutions can be highly challenging and are often capital and time intensive, with unique circumstances that differ from ventures leveraging mainstream technologies.
- Venture Capitalists (VCs) play a key role in the startup ecosystem as both capital providers and capacity builders for innovators.
- Despite India's position on the cusp of global leadership in the space, many of the startups pioneering the field remain stunted by a gap in access to patient capital.
- Accordingly, VCs should simultaneously expand their investment risk tolerance as well as their capacity to assess emerging technologies in the interest of making a greater number of investments in Deep Tech that will serve to unlock the value of India's innovative potential.

Access to capital:

- Boasting one of the world's most dynamic contemporary technology ecosystems, the Indian VC community has made enormous strides in the past decade, as measured by sustained increases in fundraising, deal flow, and active VC funds.
- However, Indian startups have extremely low tolerance for risk compared to ecosystems like Silicon Valley, with investors generally directing their funding to startups that are able to clearly demonstrate proof-of-concept and commercialisation viability in well-precedented sectors.
- Consequently, earlier stage innovators are frequently unable to access the capital required to go from ideation to prototype, effectively bottlenecking the pipeline of innovation.

Disincentive to investment:

- This dilemma is compounded in domains of Deep Tech like AI, which requires a significantly longer amount of time and cost for research and development than generic software.
- Innovators in AI require patient capital—investment without expectation of turning a quick profit, in the interest of a potentially significant, long-term return.
- Furthermore, most VCs in India are currently oriented towards ventures involving proven mainstream technologies like FinTech, Media, and Gaming, hence their expertise in Deep Tech may be lacking.
- Ambiguities and information gaps of this nature are common throughout other sectors of Deep Tech and act as a further disincentive to investment, particularly in the early stages.

Technically-skilled leadership:

- It is critical that VCs recognise the unique features of Deep Tech ventures compared to generic software companies.

- Deep Tech tends to have longer research and development life-cycles, hence, requiring investment without an expectation or pressure to yield a short-term return.
- Precedents demonstrate that firms with technically-skilled leadership are more effectively able to exploit future technological trends.
- For example, Nokia, once the world's leading cell-phone company, contained few managers with technical skill sets, as opposed to Apple and Microsoft, the creators of the iPhone and Android smartphones.

Enhance alternative capacities:

- VCs should enhance their alternative capacities, such as their ability to support portfolio companies with functions like product testing and localisation, navigating intellectual property challenges, regulatory uncertainties, fraud, interpersonal dysfunction, marketing, and personalised advertising.
- While investment is critical, other variables play a significant role in contributing to precluding the advancement and maturation of Deep Tech ventures.
- For example, AI-enabled applications require high-quality, sector-specific annotated datasets as an input in order to operate effectively.

Conclusion:

Alongside increasing access to early stage capital, the resolution of such challenges by VCs, civil society organizations, and municipal, state, and the Union governments will serve to foster the advancement of India's Deep Tech innovation ecosystem.