

Why Science and Technology Must Be Part of Every Philanthropist's Portfolio



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Many of India's most consequential scientific institutions, from the Indian Institute of Science (IISc) to the Tata Institute of Fundamental Research (TIFR), were born not only of state ambition but also of philanthropic vision. This allowed them to think long term, operate with autonomy and attract global talent. At a moment when India is rethinking its development pathways, that tradition of science philanthropy deserves renewed attention.

During recent times, common discourse around development and progress in India tends to lean heavily towards physical infrastructure, growth rates, and our ability to influence geopolitics. Yet history shows that durable, inclusive progress is often powered by sustained investments in science and technology. South Korea is a good example for this - Its rise to a high-income, industrialised, innovation-driven economy was fueled by decades of commitment to scientific capability, engineering talent, and applied research,

allowing its firms to move from manufacturing to innovation leadership. India faces a similar inflection point and in order to move up the value chain, it must strengthen its commitment to science and technology, and in doing so, it may find a powerful and underleveraged ally in philanthropic investment.

Almost every social priority that matters for India's development, such as health, climate resilience, agriculture, manufacturing, and urban issues, has a scientific and technological dimension that shapes how far and fast progress can travel. Yet this upstream dimension remains significantly underfunded within philanthropic portfolios, which often prioritise immediate service delivery over long-term capability building. This is understandable: delivery shows visible results. However, it is investment in science that builds the conditions that make these future results possible. The rapid development of mRNA vaccines globally, for instance, was enabled by decades of curiosity-driven work with no immediate application in view.

Today, philanthropy and science are engaging in a strategic and coordinated manner to make this possible. Organisations like the Anusandhan National Research Foundation (ANRF) have been designed to connect research funding with national priorities while enabling participation from non-government actors. Under ANRF, the recently announced Anusandhan Translational Research & Innovation (ATRI) initiative is committing significant resources towards co-funding, allowing philanthropic capital to be matched with public funding. Such mechanisms matter because they reduce fragmentation and give donors clearer pathways to scale impact.

In parallel, collaborative philanthropy is expanding what is possible. Supporting science & technology often requires sustained funding, technical judgment, and long timelines, conditions that can be challenging for individual donors to shoulder alone. Initiatives such as India's Translational Research Initiative (ITRI) illustrate how pooling philanthropic capital and sharing expertise can support translational research across multiple technologies and institutions. As an example, ITRI has catalysed the Mumbai Biocluster, a collaborative platform that brings together academic institutions, industry leaders, and funders to strengthen translational life sciences research and accelerate innovation in health and biomedicine. Through participation in these platforms, philanthropists need not build deep scientific capability in-house to participate meaningfully in innovation ecosystems in India.

Translational research focuses on bridging the gap between laboratory results and real-world use through validation, scale-up, and regulatory readiness. Early de-risking for adoption helps promising technologies gain acceptance by industry, government, or communities. In India, early philanthropic and public support for clean energy pilots, indigenous diagnostics, and electric mobility has helped demonstrate feasibility, enabling wider uptake. In this way, philanthropic capital can act as catalytic risk capital, enabling solutions to reach society at scale.

On the other hand, it is essential to understand that philanthropy that engages with science does not replace delivery or implementation; it strengthens the underlying capability that determines whether delivery systems succeed or stall, by providing long-term patient capital. This is best seen in the case of health. For instance, India currently relies extensively on global biomarkers, which does not fully reflect the realities of India's population, limiting the precision of diagnosis, risk assessment, and treatment. The Advanced Research Unit on Metabolism, Development & Ageing (ARUMDA) at TIFR Hyderabad is working to bridge basic biological research with clinical and contextual public health insights from India, which in turn will inform more effective health interventions. Philanthropic support for such work does not compete with care delivery; rather, it helps ensure that care systems become more precise, effective, and sustainable, thereby acting as catalytic capital.

A similar logic applies to climate action as well. As per the Economic Survey of 2024-'25, India is the seventh most vulnerable country to climate change. Adaptation will be essential, particularly from a climate justice perspective. But the quality of adaptation, how anticipatory it is, how affordable it becomes, and how widely it can be deployed, depends on progress in areas such as climate modelling, materials, storage, and monitoring. Philanthropic support from Tata Trusts has helped climate-resilience initiatives in Mira-Bhayandar, including data-driven planning for heat risk management in partnership with organisations such as the Aga Khan Agency for Habitat - demonstrating how early philanthropic funding can help cities pilot solutions before public systems scale.

India's innovation ecosystem is increasingly producing solutions with relevance beyond its borders. For example, India's low-cost vaccine manufacturing capabilities have contributed significantly to routine immunisation vaccines across developing countries. These solutions travel well because they are developed under constraints similar to those faced by other low - and middle-income countries. Philanthropic capital that supports such innovation contributes not only to national goals, but to broader global public goods too.

Science and innovation need not dominate philanthropic giving. But they should be present, as patient, long-horizon, risk capital that supports knowledge creation, translation, and early adoption. Even a modest allocation can shape what solutions are available to India a decade from now.

For philanthropists thinking about enduring impact, science is not a detour from social good. It is one of the ways social progress becomes durable, sustainable and takes humanity forward on the path of progress.
