On Science & Technology for Policy in India

Center for Study of Science, Technology and Policy
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An Interview with Dr VS Arunachalam, Founder, CSTEP

Dr VS Arunachalam, Fmr Scientific Advisor to the Defence Minister, and Founder, CSTEP

In this interview, Dr VS Arunachalam, Fmr Scientific Advisor to the Defence Minister under 5 Prime Ministers, and Founder CSTEP, speaks on technology — the great leveller — and

why the strategic application of science & technology can help India meet its policy goals.

When did you begin thinking of the role of technology in policymaking, what/who influenced your thinking?

Science came easily to our home. My uncle and brothers-in-laws were scientists and the enthusiasm with which they talked about their days at laboratories was almost infectious. At High School, I read about the mathematical genius Ramanujan and other leaders of Science. At that age itself, I started dreaming of becoming a scientist. I set up a Science Club at school and organised science exhibitions and lectures. Science was thus a welcome visitor in my youth and has continued ever since.

Technology was a different matter, though. I understood even then that science and technology are different entities. Large technological institutions transformed laboratory results into real-world factories. As the iron and steel mill at Bhilai was just getting commissioned, I was excited to see miles of steel wires pushed out of blast furnaces; I was also enthralled by the Nuclear Reactor Apsara being built by the Atomic Energy Commission. Our political leadership, especially Prime Minister Jawaharlal Nehru, was so enthusiastic about building science institutions in the country — it was an inspiring time, for someone like me.

When I assumed responsibility as Scientific Advisor to the Defence Minister at Delhi, my job was not only to inform about science and engineering choices but also to advice on their strategic applications and policy options for the country. Thus, policy — along with science and technology — became a necessity.

What is your vision for CSTEP as a technology-based policy think tank?

Technology-based think tanks are a rarity and CSTEP is working in a slightly rarified environment. CSTEP has grown as an institution pursuing technology for policy. In a sense, we modelled our approach on the Battelle Memorial Institute in the United States of America. CSTEP would like to emulate the Battelle model by focusing on policy issues bolstered by technology studies. Our Government laboratories have established excellent facilities that complement the policy studies conducted by think tanks like CSTEP. This has created an environment where technology and science are pursued together — in tandem with policy analysis.

CSTEP is an active proponent of driving technology to tackle policy and developmental challenges. The results are already out there — in our projects that are creating societal

impact. CSTEP will be playing this role of an interface between technology and policy.

The CSTEP team in the Bengaluru office

As a scientist, former scientific advisor to the defence minister, and founder of a technology-policy think tank, what are your observations on how government and civil society organisations can work together?

The Government does not operate in a vacuum. It receives inputs from many sources like ministries, departments, and other governmental agencies. The objective is to meet the requirements of the government, and [it] also carries some responsibilities with regard to promises made in the election manifesto.

The approach of a think tank is a little more relaxed. It has no promises to keep; instead, it would approach the challenges with the available information — both nationally and globally. Often, it may be able to derive new approaches and technologies by studying the global scenario in the focused topic.

Thinks tanks, such as CSTEP, provide detailed technology and policy analysis looking at strategic application of technology and their implications on policy goals. Governments can enable cooperation with other national and international institutions and help in accessing resources for implementing projects that are in line with government policies.

How will technology make a difference in the policy ecosystem?
Technology is a great leveler. It spreads throughout the globe faster or slower, legally or illegally, depending on its receiver's economic and political situations. New

technologies are useful in improving a nation's economy and boosting human development. An understanding of these issues enables a country's political system to provide its citizens with all the necessary technology.

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Learn more about how Technology shaped India's Defence Sector in From Temples to Turbines: An Adventure in Two Worlds, by Dr VS Arunachalam.

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