

## **Can we Build Innovation Systems with Weak Science and Technology Systems? Some Insights from Successful Cases in Asia**

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### ***Summary/Abstract of Keynote Talk***

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The post-war era, particularly from the mid-1980s, can be seen as a turning point for various Asian countries. Japanese success in industrialisation based on technology transfer from the industrialised West and evolution of unique endogenous scientific and technological capacities led scholars to conceptualise 'late industrialisation' and 'catching up' strategies. Alice Amsden's book on *Asia's Next Giant: South Korea and Late Industrialization* is probably the single most cited work on East Asian development. What has come to be known as 'Imitation to Innovation' was the main title of Linsu Kim's *The Dynamics of Korea's Technological Learning*. The technological dynamics in the region soon came to be characterized as *East Asian Miracle* by the World Bank in the 1990s. In a large measure, this 'East Asian Miracle', led to some erroneous misconceptions on science, technology and innovation (STI) policies. Various writings and commentators from Africa, Asia and Latin America advocated to follow the path of East Asian Dragons. These writings began to assume that countries can build innovation systems or dynamic technological sectors of economy within respective countries, without paying much attention to building and strengthening science and technology (S&T) systems including higher educational institutions. S&T systems invariably include scientific and technological communities or specialist research groups advancing knowledge; communities oriented to strengthen research capacities and innovation potential; scientific journals and professional societies; research publications; higher educational institutions; and public and private R&D laboratory capabilities.

With hindsight, we have now systematic evidence to suggest the role of various actors and agencies in STI policies behind the success of innovation systems or dynamic technological sectors (from the perspective of sectoral innovation systems). In other words, there are now clear STI policy signals which point to the significance of building science and technology systems before fully embarking on innovation policies. Drawing on some exemplary cases, this presentation will explore the importance of S&T systems in the context of developing countries. How some economies (for instance agriculture-based economies) vary from East Asian Dragons? In the current phase of pandemic, how some countries have become self-reliant in health security compared to others? Why some countries within Asia were relatively more successful than others? To what extent S&T systems in these exemplary cases vary with other developing countries? and

How critical is the phase of establishing national science communities towards building innovation systems?. These are some of the issues which will be explored in this article.