



FULBRIGHT  
UNIVERSITY  
VIETNAM

FULBRIGHT SCHOOL OF  
PUBLIC POLICY AND MANAGEMENT

# DEVELOPMENT POLICY

SESSION 8

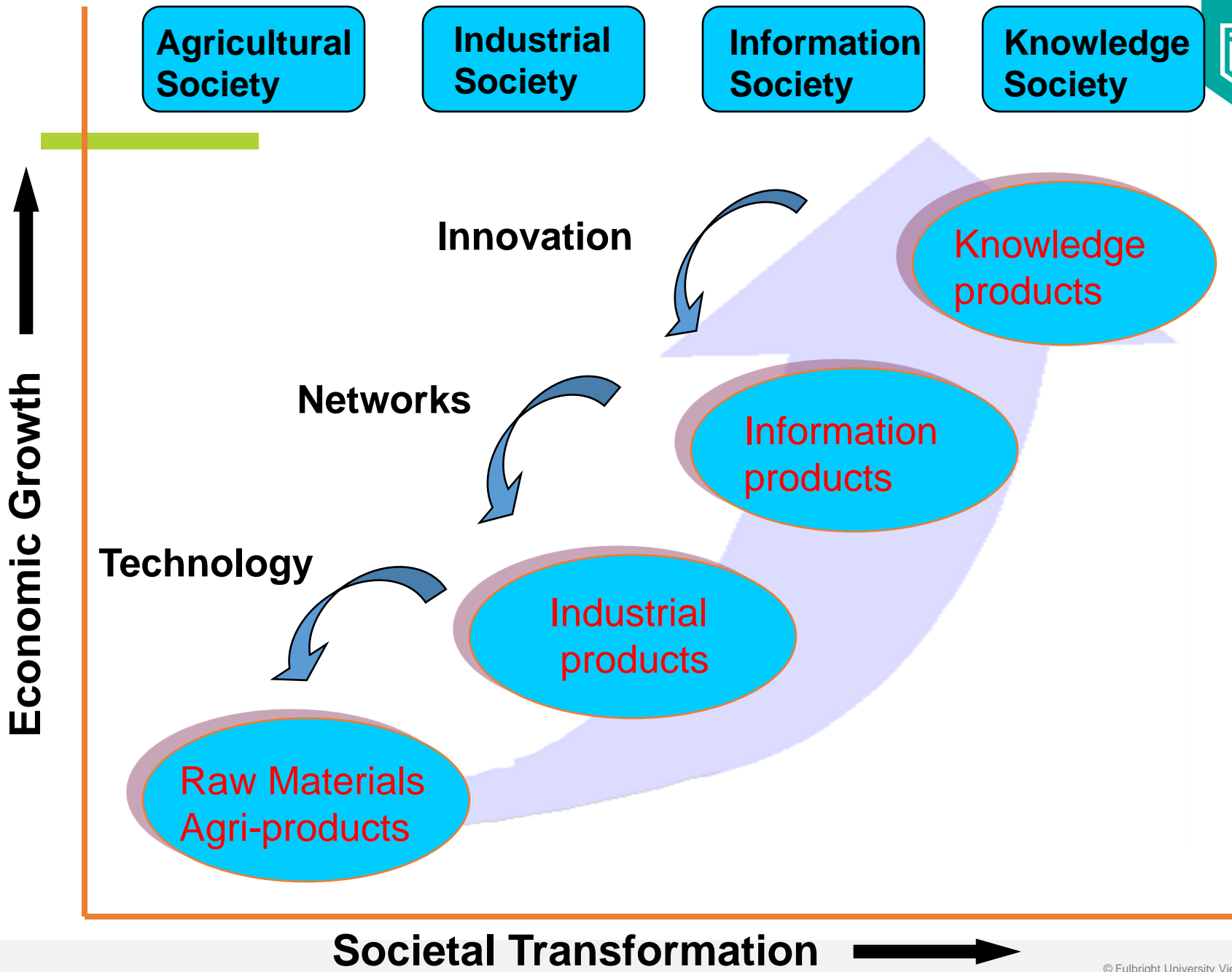
**Science, Technology and Development**

# Session 9

---



- Fast growing countries tend to have deeper root of scientific and technological development.
- What has been the trend worldwide, how has the investment in science and technology resulted in economic growth?





# Consensus: S&T - Development

---

- Consensus among policy makers and economists: at least half, if not more, of the economic growth in countries is directly attributable to science and technology.
- In a globalizing, knowledge driven world with increasing importance of service industries and technological competitiveness, this contribution can only become higher.



# The role of Science and Technology

- Growing recognition that development "is built not merely through the accumulation of physical capital and human skill, but on a foundation of information, learning and adaptation..." (World Bank, 1999)...
- Historically high rates of return on investment in S&T
  - "the dominant engine of economic growth" (Solow)
- But relevant knowledge remains underproduced, underutilized, unevenly distributed (UNDP)
  - Private investments lag because of large public spillovers, property rights issues...
  - Public investments static or falling due to perceived irrelevance, inefficiency of results.



# Strategic approach

- Solution-driven priorities
  - Not driven by priorities of the S&T community
  - Not confined to merely illuminating social problems
- “Co-production” of usable knowledge
  - Through collaboration of users and producers “in place”
  - Drawing on global research and innovation *systems*
- Incentive structures designed to
  - Engage the private sector in harnessing S&T for the provision of public goods.
  - *Honor scientists and engineers* who focus their work on urgently needed solutions for a sustainability transition.



# Clusters of Action points

- Human Resources-New paradigms in science education
- Universal scientific and technical literacy
- Science, its values and Societal engagement
- Institutions, infrastructure and networks
- Information access-particularly to scientific journals
- Public/Private partnerships
- Policy issues - national and international

# Silicon Valley



- Silicon Valley has a guaranteed place in history as the original industrial core of the revolution in information technologies.
- A home for largest high-tech corporations: Headquarters of 39 companies in Fortune 100 & thousands of startup companies. 1/3 of venture capitals.
- The creation of its high-tech industrial basis in the 1950s around the Stanford Industrial Park.
- Growth of innovative microelectronics firms in the 1960s, Support from Department of Defense, launching of personal computers.
- Centrality of work - Technical professionals – Entrepreneurialism – Aggressive competition – venture capitals (high risk money)





# Daeduck Science Town – S. Korea

---

- Research and Development oriented town in South Korea (1973) – by the order of Park Chung Hee, with establishment of Korea Advanced Institute of Science and Technology (KAIST).
- Concentration of Ph.Ds in Science and Technology, Electronics, Aerospace, etc. 232 institutions.
- Government was the main actor (support the creation, relocation of research institutes to the town).
- Scientists returned from US and Europe – suburban belt, good quality of life in the town.



# Science Castle – Tsukuba, Japan

---

- Japan has made two major science cities. Tsukuba (1960s) – government promoted scheme / Kansai – 1980s, local prefecture promoted.
- Tsukuba, 60km northeast side of Tokyo. Building research centers and laboratories, fully funded by the central government. 28,559 hectares. 1/10 of Tokyo city. – Research and Education District, 48 national research and educational institute (30-40% of national researchers and agencies).
- Kansai Science City – Instead of a single-point concentrated approach, favored a linked, multi-nuclear development. Public-private partnership project.

# A\*STAR - Singapore



- Agency for Science and Technology Research (Singapore)
  - A statutory board under the Ministry of Trade & Industry.
- Support R&D and allocate fund for competitive areas. Advanced manufacturing and engineering, health and biomedical sciences, urban solutions and sustainability, etc.
- Close relationship with companies and industries, 18 research institutes, and more than 5,000 staff and researchers in the research towns.
- Depended upon imported workers but now producing local researchers (more than 700 Ph.D and Postdoctors have been supported).





# Q&A



## CONTACT

### **Fulbright School of Public Policy and Management**

232/6 Vo Thi Sau, District 3, HCMC

T: (028) 3932 5103

F: (08) 3932 5104

E-mail: [info.fsppm@fuv.edu.vn](mailto:info.fsppm@fuv.edu.vn)

Web: [www.fsppm.fuv.edu.vn/](http://www.fsppm.fuv.edu.vn/)