The Role of Academies in Supporting the SDGs:
The Korean Academy of Science and Technology (KAST)

Proposal for Multidisciplinary Research for Health and Disaster Response in a Changing Climate:

Hye-Yeong Chun
Department of Atmospheric Sciences,
Yonsei University, Seoul, Korea

Organization of KAST

- Five Divisions with 492 fellows
  - Policy Study
  - Natural Sciences
  - Engineering
  - Agricultural & Fishery Sciences
  - Medical Sciences
- 449 Fellow Emeritus
- 125 Y-KAST Fellows
- 76 Foreign Members
Role of KAST

A. Convening Power

B. Promotion of Science

C. Global Leadership

Convening Power

Presenting long-term visions in the field of S&T based on its independent consultation and recommendation on governmental policies

• KAST Roundtable Discussion
  • held 8~10 times per year
  • 129 times since its launching (1994)
• Trusted Reports
  • Policy Study Reports
  • Voice of the KAST
Global Warming & Urbanization, World-wide issue

- Only 2% of the world land but >50% in the population in cities
- 1.3 million people into cities each week
- 75% of the world’s resource are used
- Strong greenhouse gases emission
- Vulnerable to natural and anthropogenic disasters (e.g., heatwave, flood, air pollution, etc)
**Urbanization in Korea**

- **Rapid growth of megacities in Asia**
  1. Rapid economic growth of Korea since 1970
     - 17% of land cover
     - ~90% of population
  2. Moving toward the urban re-development stage
     - ~ 40% buildings are older than 20 years

**Dark side of the rapid industrialization**

- Department store collapse (1995): 501 death
- Apartment collapse (1970): 33 death
- A bridge collapse (1994): 32 death
- Flash Flooding in the new Central Business District (2011-2013)
Sustainable Urban Development:

- Universal Health Care System started in Korea (1999)
- Large aging population and declining birth rate (<1.0)
- Susceptible urban structure to natural disaster and extreme weather events
- Mess of communications and blackout influence on healthcare systems

- Avian Influenza
- Mess of Communications (2018)
- Collapse of Emergency system
- Massive Blackout (2011)

Urbanization

- There are known knowns
- There are known unknowns
- But there are also unknown unknowns

Donald Rumsfeld

Research Organization focusing on the Unknowns.
- Advance of sciences of weather, environment and health in changing climate
- Public outreach and information for decision makers
Thank you for listening!!