Establishment of Master Plan for Capacity Building of Science, Technology and Innovation Parks in Colombia

Presented for Final Reporting Seminar

Bogota, Colombia
May 18, 2016

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Korea's Economic Development, 1953-2014

2nd Poorest Country in 1945 → 8th Largest Economy in 2014

$67 (1953) → $28,180 (2014)

Source: The Bank of Korea

- 1953-1970: Per Capita GNP (current US$, 1975 base year)
- 1971-2010: Per Capita GNI (current US$, 2005 base year)
$ 59 Billion (4.15%) in 2013

Target 5%
Trends of Public vs. Private R&D Investment in Korea

Promoting Private R&D Investments


Private Share, %

Gov. Share, %
Industrial Shifts and S&T Policies

“Select and Focus” Strategy

1960s
- Import Protection
- Foster export-oriented light industry

1970s
- Heavy Industries
- Introduce new technology, expand technological capability

1980s
- Assembly & Processing Industries
- Promote import liberalization
- Expand investment in technological development, training of skilled manpower

1990s
- IT Industry
- Strengthen demand-driven technological innovation
- Establishment of nationwide IT infrastructure
STI Meets Industrial Demands

Demand Side

- Self-Sustain
- Import Subs.

- Mfg. Capacity
- Industrial Seeds

- Open Market

- Higher Value-added

- Industrial Diversification

Industry-Oriented STI Strategy

Light Industries

- Import Protection
- Export-Orient

Heavy Industries

- Import Tech.
- Tech. Capability

Assembly & Processing Industries

- Expand R&D
- Skilled HR

IT Industries

- Demand-oriented Innovation

New Growth Engines

- Endogenous Tech.
18 Techno-Parks in Korea
Coordinated Scheme for Regional Innovation

- Developed “Five-Year Regional Development Plan” (2004)
- Coordinated “16 Regional Strategic Industries” based on regional characteristics (2004)

- Selected Regional Strategic Industries as its target industries
- Founded “Technopark” as an management entity in each 16 regions
- Empowering Technopark with managing Regional Strategic Industries

Plans and Strategies at the national level were closely linked to the regional strategy and implementation at the regional level
Lessons from Korean Experiences

• “Select and Focus” Strategy
  • Under the limited Resources, It’s not an Option but a Must
  • Strategic Industries at the National level and Regional level

• Industry-Oriented STI
  • STI Focused on Industrial (Technological) Demands
  • S&T for Innovations

• National-Regional Coordination
  • Regional Inclusive Innovation
  • Innovation as a Main Tool for Regional Development

• Supported by Policy Capacity
  • Korean STI Policies (Plans) were largely supported by Professional Policy Experts
  • Enabling Long-term Plan
  • Policy Think-tanks at National and Regional Levels
Applying Korean Lessons in Colombian Context

- **Concept: S&T + I**
  - Promoting Industrial Innovation based on S&T
  - Functioning Industrial Park as well as Techno Park

- **National-Regional Partnership**
  - National Gov. Provides Overall Guidelines and Strategy
  - Regional Gov. takes Leadership in Establishing STI Park

- **Public-Private Partnership**
  - Need Private Sector Participation

- **Redirecting GSR**
  - 10% of Royalties are the main source for STI Park

- **Regional Strategic Industries**
  - STI Park should focus on Regional Strategic Industries

- **Bring out University Researchers**
  - Regional Universities should serve for Regional Strategic Industries
Triple Helix for Regional Innovation

- **Government**
  - Regional Governments
  - Public Research Institutes (PRIs)
  - Research for Public Purposes
  - Applied Research

- **Universities**
  - Supply S&Es
  - Curiosity-driven
  - Basic Research

- **Firms**
  - Commercialization
  - Produce Innovations
  - Development Research
Project Overview

- **Project Period**: 2014. 06. 01 ~ 2016. 05. 31 (2Y)

- **Target Area**: Three Regional STI Parks in Colombia
  - **Bogota**: Bogota STI Park / Focused on IT Sector
  - **Palmira**: Technology Park of BioPacipico / Focused on Agriculture & Life Science
  - **Bucaramanga**: Technology Park of Guatiguara / Focused on Energy

- **Purposes of the Project**
  1) *Capacity building* for the Colombian STI policy planning and implementation
  2) Support development of *Master Plans* for Three STI Parks
  3) *Capacity building* of human resources for STI parks
     - Training Program (Korea) &
     - Local Workshops (Colombia)
Project Structure (for Capacity Building)

Sustainable regional development

Vision 2019
National Dev. Plan 2010-2014
STI Strategic Plan 2010-2014

Sustainable Regional Innovation Capacity Building

Strategies for National STI Parks

Bogota MP
Palmira MP
Bucaramanga MP

Diffusion to other STI parks

Existing policies of three STI parks

Colciencias
STI Policy Think-Tank

Training Program
Consulting
Workshop

STEPI

Working-level Experts/Advisory Group

Daedeok Science Complex
Chung-nam Techno park (Automobile/Electronics)
Pangyo Techno Valley (IT/Bio)
Osong BioValley (Medical Bio)
Korea National Food Cluster (Agriculture)

IUC: Industry-University Cooperation Agency

Team of Colombian Counterparts (Primary CPs)
Main Activities I

• **1st Visit**
  • July 4 - Aug. 2, 2014
  • Initial Visits to All Focused Areas
  • Diagnosis on Current Status of Colombian STI Parks

• **2nd Visit**
  • Sept. 19 - Oct. 4, 2014
  • Identification of Colombian Team (Working Groups)
  • Agreed on Basic Directions

• **1st Invitation to Korea**
  • Nov. 17 - 28, 2014
  • Overview of Korean System for STI Dev.
  • Understanding of Korean Techno-Park System
Main Activities II

• 3rd Visit
  • Jan. 11 - Feb. 9, 2015
  • Developing Drafts of National Strategy and MPs
  • Discussion on Lessons from Korean Approach and Localization to Colombia

• 4th Visit
  • July 25 - Aug. 27, 2015
  • Public Hearing on Interim National Strategy and MPs
  • Attracting Public Attention on STI Parks

• 2nd Invitation to Korea
  • Sept. 14 - 25, 2015
  • Training on Policy Dev. And Operation of Techno-Parks
  • Workshops on Colombian National Strategy and MPs
Main Activities III

• 5th Visit
  • Feb. 22 - Mar. 9, 2016
  • Review of National Strategy and MPs Progress
  • Focused Workshops with Colombian Team
  • Meetings with High-level Stakeholders for Enhancing Implementability and Sustainability

• 6th Visit
  • May 16 - May 27, 2016
  • Final Reporting Seminar
  • Meetings with High-level Officials and Stakeholders for Support
  • Discussion on Follow-up Tasks and Future Challenges
Major Achievements

- **Article 12 of National Development Plan**
  - Define the Concept of STI Park
  - Require to Develop National Strategy for STI Park

- **National Strategy for STI Park**
  - To be announced soon (July 2016?)
  - Provide National Framework for Promoting STI Parks

- **Master Plans for 3 Pilot Regions**
  - Provide Vision Map targeting Regional Strategic Industries
  - Develop Action Plan with Specific Programs

- **Improved Public Understanding on STI Park**
  - Draw Greater Attention of Regional Stakeholders

- **Capacity Building and Strengthening**
  - Colombian Team => Future Champion
  - Critical Role in Diffusing STI Park Model to other Regions
Remaining Challenges

• **Implementation**
  - Enforcement of National Strategy
  - Making Pilot Cases Success
  - Securing Sustainable Funding Sources

• **Institutional Capacity Building**
  - Building & Strengthening Managing & Operational Capacities of STI Parks
  - Improving Strategy Dev. Capacities for Regional Dev.
  - Strengthening Policy Dev. Capacities at National & Regional levels

• **Diffusing Pilot Model to Other Regions**
  - Support Potential Regions in Developing MPs for STI Parks
  - Transfer Tacit Knowledge to Other Regions
Muchas Gracias!