Transition to the Creative Economy: Gender Perspective

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Introduction of KISTEP
Introduction of KISTEP

KISTEP, Key to Creative Innovation

As a global institute, KISTEP contributes to economic growth and public welfare through strategic S&T planning and R&D evaluation.

- Create the national growth potential based on the creative economy
- Preemptively establish future agendas and strategies
- Lead the paradigm shift of R&D system through creative innovation

- KISTEP is a government-funded institution under the Ministry of Science, ICT and Future Planning (MSIP) specializing in S&T planning and evaluation.
- KISTEP provides the future vision, strategies and guidelines for the entire national R&D system.
Major Functions

1. Foresight and Future Strategy for S&T
2. S&T Policy Planning and Coordination
3. Feasibility Study on Government R&D Programs
4. Budget Allocation and Coordination of Government R&D Programs
5. Evaluation of Government R&D Program Performance
6. Global Cooperation & Collaboration
Global Challenges and S&T
S&T Progress Leads to World Prosperity

Innovation freed the world from the Malthusian Trap

Technological progress led to explosive growth of population and income

Growth in Population and GDP per Capita in the Past 2,000 years

Korea’s Experience of Economic Development

GDP per capita

1953→2012
GDP increased 780 times

Role of S&T
Build economic capacity by copying and adapting advanced tech.
Changing Ind. structure
Labor intensive → Tech. intensive
Main driving force for growth


The First Five Year Economic Development Plan, The 5 Year S&T Plan
The opening of the first expressway
The 1st Oil Shock
The 2nd Oil Shock
Capital liberalization
88 Olympic
Low interest rate, oil price and dollar
Join OECD
1997 Asian Financial Crisis
2008 Financial Crisis

('50s)
Post-war aid
('60s) Light Ind. Import Substitution Ind.
('70s) Construction
('80s~mid 90s) Electronics
('mid 90s ~ ) IT Ind.
Status of Korea in Global Economy

- Export increased approx. 670 times from 863 million dollars in 1970 to 559,632 million dollars in 2013
- Ranked 8th in the world for trade volume (greater than 1 trillion dollars in 2012) (WTO, 2013)
- 13 Korean companies listed in Fortune Global 500 (Rank 8) (Fortune, 2013)
- Ranked 3rd in manufacturing business competitiveness (Boston Consulting Group)

**Trade Volume, 1947~2011**

**Trade Volume Rank, 2011**

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>2011 (100 million dollars)</th>
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<tbody>
<tr>
<td>USA</td>
<td></td>
<td>38824</td>
</tr>
<tr>
<td>China</td>
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<td>38688</td>
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<tr>
<td>Germany</td>
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Technology Progress Leads to Economic Development in Korea

Advancement of S&T Itself Does Not Solve Global Challenges Today: Inequality

<table>
<thead>
<tr>
<th>Global Inequality</th>
<th>Income Inequality</th>
<th>Job Polarization</th>
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<tr>
<td>The global pattern of income distribution is highly uneven, with average income levels significantly lower in African and Asian countries.</td>
<td>The recent increase in income inequality reduces levels of trust and social capital, and gives rise to controversy on social system.</td>
<td>The global workforce has undergone a dramatic restructuring in response to changes in technology, trade, and consumption patterns.</td>
</tr>
</tbody>
</table>

GDP per Capita Distribution

Source: Geocurents (2011)

Income Inequality

Source: Federal Reserve Bank of New York (2011)
Global Challenges: Low Economic Growth

Economic Recession

Even though the world recovered from huge recession caused by financial crisis in 2008, its negative impacts on economic growth and uncertainty last.

% Change in World GDP, 2007-2013

Source: IMF (2013)

The Productivity Slowdown

Despite the ICT revolution have contributed to human welfare, productivity has already slowed substantially and the growth outlook is negative.

Annualized Growth Rates of Output per Hour, 1891-2013

1891-1972

2.36

1972-2013

1.59

Source: Gordon (2014)
Global Challenges: Climate Change and Energy

Lack of Sustainability

The current development path originated from the Industrial Revolution cause environmental disruption, climate change and energy exhaustion etc.

Climate Injustice

Underdeveloped countries that are not responsible to climate change suffer from natural disaster caused by it. And they should also pay cost of climate change by international agreement in the future.

Sea Level Rise, 1993-2011

Average CO2 Emission per Person

Source: CSIRO (2012)

Emergence of the Creative Economy
What is the Creative Economy?

The Creative Economy is all about creating new markets and jobs, building on the creative ideas of economic players.

The Creative Economy pursue not just “technological innovation” but also “social innovation”

It try to overcome 1) barrier of regulation, 2) barrier of education, 3) barrier of finance, and 4) barrier of border
Why the Creative Economy?

Overcoming Inequality Challenge

✓ Emphasizing on “human development”
✓ Creativity is inherent in all economic players of all countries unlike capital or resources

Overcoming Growth Challenge

✓ Emphasizing on “new market” or “new industry”
✓ the law of diminishing returns does not apply to the economy

Overcoming Environmental Challenge

✓ Emphasizing on “creativity”
✓ Unlike mineral resources, creativity neither depletes no matter how much it is used nor involves environmental side effects
Korea is one of the biggest S&T player in the world in terms of resources devoted to R&D.
The rate of increase in GDP has slowed down recently due to low productivity, population aging, weak domestic demand, etc.

“Catch-up” strategy based on R&D investment is not an effective strategy for economic development anymore.

Korea is shifting its economic paradigm to the “Creative Economy” to overcome limits to growth.
Creative Economy and Gendered Innovation
“Gendered Innovation” Increases Economic Capability and Creativity

Women’s Participation

Raising women’s economic participation is key to improve potential growth rate.

Organization’s Diversity

A group of people with diverse individual expertise would be better than a homogeneous group at solving complex, non-routine problems.

Relationship among Employment, GDP and Birth Rate

- Female Employment: 57.2%
- GDP per Capita: $31,353
- Birth Rate: 1.70

GDP loss caused by female’s career break: 4.9% in GDP (LGERI, 2013)

“Gendered Innovation” Improves Knowledge and Creates New Market

Knowledge Capital

By considering sex and gender dimension in research, we can accumulate more and better knowledge capital, the key resource for the Creative Economy.

New Market

Product development that incorporate gender aspects can open new markets and enable innovation in products or services.

Gendered Innovation in Research

Gendered Innovation in Development
Korea’s Efforts and Limits in Gendered Innovation
Women’s Policy in KOREA

  - to give equal job opportunities and conditions to both sexes

- **Framework Act on Women's Development** (1995.12)
  - to promote equality between both sexes in every areas and develop women’s capabilities
  - ‘Gender Impact Assessment’ in Article 10

- Establish the **“Master Plan for Women’s Policy”**
  - 1st plan (’98-’02): Equality, Participation and Welfare
  - 2nd plan (’03-’07): coexistence, competence, representability, welfare & human right
  - 3rd plan (’08-’12): manpower utilization, protection of right, policy infra.
  - 4th plan (’13-’17): equality & participation, safety, work compatibility with household

- Submit **“Gender Sensitive Budget Bill 2011”** as a legal document (2010.10) to the Assembly

- **Gender Impact Analysis and Assessment Law** (2011.9)
Best Practice in Women’s Policy

Gender Budgeting (GB)

- **(Goal)** GB is to promote gender equality by influencing budget process
- **(Legal base)** National Finance Act, National Accounting Act, Local Finance Act
- **(History)** the first gender budget statement was made in 2009

Gender Impact Assessment (GIA)

- **(Goal)** GIA is to promote gender equality by analyzing gender characteristics and gap in policy making
- **(Legal base)** Gender Impact Analysis and Assessment Act
- **(History)** the first plan to introduce GIA was prepared in 2004

**Gender Budget, 2012-2015**

- **2012**: 11.3 trillion won, 254 programs, 3.5% of total Gov. budget
- **2013**: 13.3 trillion won, 275 programs, 3.8%
- **2014**: 23.0 trillion won, 339 programs, 6.5%
- **2015**: 26.2 trillion won, 343 programs, 7.0%

**Gender Impact Assessment, 2009-2013**

- **2009**: 1,908 programs
- **2010**: 2,401 programs
- **2011**: 2,954 programs
- **2012**: 302 programs
- **2013**: 304 programs
Women’s Policy in S&T field in KOREA

- Initiate **WISE (Women in Science and Engineering) program** (2001.09)
  - to develop talented female student through mentoring program with senior women scientist or engineer

- 「Act on Fostering and Supporting Women Scientists and Technicians」 (2002.12)
  - to strengthen the capacity of women in SET
  - to allow women in SET to fully perform the skills and capabilities in research and technical positions

- Establish the **“Master Plan for Female S&T Workforce Promotion and Support”**
  - 1st plan (’04-’08): S&T Education, Ability, Infrastructure & Culture
  - 2nd plan (’09-’13): HRD, Participation/Diversity & Infrastructure
  - 3rd plan (’14-’18): Ability, Challenge, Balance, Diversity & Gendered Innovation in R&D

- Establish supporting institute for women in SET (2004.12)
  - Center for Women in Science, Engineering and Technology (WISET)
However, A Long Way to Gendered Innovation

% Female Labor Force Participation (ages 15-64)

Source: OECD (2013)

% of Female Leaders in organization

Source: MSIP (2013)

% of Female Participation in National R&D Program

Source: MSIP (2013)

% of Female Students in S&T Majors

Source: MSIP (2013)
The Glass-ceiling Index

The Index is designed to show where women have the best chance of equal treatment at work. Based on data mainly from the OECD, it compares five indicators across 26 countries (100=best, 0=worst).

### Indicator weights, %

**SOUTH KOREA**

- Population (aged 25-64) with tertiary education, 2011, gender gap*: -8.8% points
- Labour-force participation rate, 2012, gender gap*: -22.4% points
- Gender wage gap†, 2011 or latest: 37.5%
- Women in senior managerial positions, 2010 or latest: 9.6% of total
- Women on company boards, 2013: 1.9% of total
- Net child-care cost, 2008: 15.0% of average wage
- Paid maternity leave, 2011-12: 12.8 weeks at 100% of last earnings
- GMAT exams taken by women, 2012-13: 29.4% of total
- Women in parliament‡, 2013: 15.7% of total

### Overall score: 15.5 (100=best)

Move the sliders to vary the weights. Lock up to three sliders by clicking the checkboxes. Rounding means the values may not always sum to 100.

Source: Economist (2014)
Gender Sensitive Budget Bill
: Ministry of Science, ICT and Future Planning

Goal
1. Strengthen ability of Women in SET in target based system
2. Enhance women readership and participation

Programs
✓ 11 programs in 2015
✓ Two types of programs: supporting researcher, training young talent

Gender Sensitive Budget Bill
: Ministry of Health and Welfare

Goal
1. Strengthen economic power of women
2. Improve Work-Life Balance
3. Improve right of women’s health and welfare

Programs
✓ 37 programs in 2015
✓ One R&D programs: Development of convergence-based technology for women’s health

There are lack of philosophy and policy tools to deal with Gendered Innovation beyond Women’s Policy
New Policy Agenda for Gendered Innovation
New Agenda to Promote Gendered Innovation

- From “Sollen” to “Sein”
- Developing “Gender-Mainstreaming” in S&T Policy
  - Expanding the scope of Gender Impact Assessment, Gender Budgeting and to general R&D program
- Diffusion of Gendered Innovation perspective in S&T
  - Learn and apply gender methods in R&D
  - Expand gender diversity in workplace and lab
  - Women’s participation in national R&D programs and Research cooperation
- Participate in regional (or global) Gendered Innovation network to deal with region specific (or global) gender issues
Gender Summit 6 Asia-Pacific

Better Science & Technology for Creative Economy: Enhancing the Societal Impact through Gendered Innovations in Research, Development and Business

26 – 28 August 2015
The Plaza Hotel, Seoul, KOREA

Conveners:

Partners:

In association with:
We stand in the heart of the innovation for all.
The 1st Asian Innovation Forum

Towards Better Asia: Seeking New Possibilities of Innovation

Date: August 25th – 26th, 2015
Venue: Grand Ambassador Seoul, Korea

The Asian Innovation Forum aims to bring together leading figures in S&T and Innovation (STI) policymaking, education and research to enable open discussion on Asian innovation. By sharing innovation experiences and development strategies, we hope to establish a platform for active communication and joint growth. Please join us to celebrate the inaugural forum that will become the hub of future Asian innovation!

Asian STI Think Tanks Network
will serve as a unique place to promote innovation by building networks between Asian innovators and sharing country-specific knowledge and experience. Through this unique network, we will strive together to solve the most pressing issues prevalent in Asia.

For more information, please contact aif@kistep.re.kr
Thank You!

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