



# **Policies for Increased Women's Participation in SET: Korean Case**

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Workshop on Women in Science, Engineering and Technology (SET): Strategies for a Global Workforce

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# Outline

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- Why more women in SET?
- Current state of women's participation in SET in Korea
- Policies to support women's participation in Korea
- Some 'good' practices
- Conclusion

# Why more women in SET?

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- Need to react to the demographic changes
  - Korea is moving towards an ageing society in very fast tempo
    - Longer span of life and low birth rate are expected
  - Though not yet serious, lack of high-quality personnel due to demographic change is highly probable
    - Need to unleash and utilize the potential of women in all areas of society

# Why more women in SET?

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- Utilizing the potential of women is a prerequisite for a spring towards an advanced country
  - Need to enhance women's participation in economic activities and promote their advance into higher-level jobs
  - Gender equality in SET : A way to overcome current issue of the “polarization” of society (e.g. income, industry, region etc.)

# Participation in Higher Education

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- Proportion of female students in Junior Colleges and above level is increasing
  - 37% for Junior (2-year) Colleges and Universities, 43% for Graduate Schools
- Women's proportion among graduates in SET fields is also increasing
  - Female graduates in Natural Sciences/Engineering (2004) :  
B.A. 27,000, Master 3,800, Ph.D. 400
- “Horizontal segregation” in the choice of field of study
  - Gender gap in natural sciences has decreased considerably, but still great gap in engineering :
    - 1.1 for natural sciences vs. 4.2 for engineering (B.A.)
  - The higher the level of education becomes, the greater is gender gap



# Participation in Labor Market

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- Women's economic participation has increased continually, but the tempo slowed down in 1990s
  - Difference between female and male participation remains: 48.9% for women vs. 74.6% for men (2003)
- Women from SET fields are being under-utilized on the labor market
  - Greater leakage of women in transition from higher education to the labor market

# Status in SET area

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- Continuous increase in the number of women in R&D, but they are still minority
  - Women's proportion to the whole researchers : 12.9% (2005)
- Proportion of female researchers varies by research sector
  - Absolute majority work in universities and enterprises
  - Especially very low proportion of women in enterprise sector
- Among professors in Junior Colleges and Universities, women are only 8.8%
  - Very low compared to the proportion of female students in S&E
  - The higher the position, the lower the proportion of women

# In Summary....

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- The continual expansion of women's participation in higher education has not led to a corresponding increase in the participation in S&T-related jobs
- Still great gender segregation in the education in natural sciences and engineering
- Stagnation of the women's participation in economic activity since the end of 1990s implies that structural constraints exist
- Despite the increasing number of women in R&D, their proportion in total researchers is still low and vertical segregation exists



# Direction of Policies for Women in SET

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- Efforts to provide a systematic support to cover the full-period of career paths of women in SET
  - From pupils in elementary/secondary schools through undergraduate/graduate students to the career women in SET areas
- Diversification of programs and current coordination efforts
  - Efforts to coordinate various programs by diverse related ministries and organizations
  - Activities to build a stronger network of people and organizations working for women in SET



# Typology of Policies

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- Policies to attract young people into SET and build up female HRST
- Policies to promote retention and utilization of women in the labor market
- Policies to improve infrastructure for women in SET
- Policies to improve public recognition and to expand a basis for women's active participation in SET

# Major Policies for Women in SET

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Type	Programs	Objectives	Ministries
Build-up	<b>WISE Program</b>	Youth, College Students	MOE/Regional Gov.
	<b>Scholarship for Distinguished Female Students</b>	College Students	MOST
	<b>Support for Excellent Research of Female Researchers</b>	Researchers (employed)	MOE
	<b>Supports through Existing Programs</b>	Postgraduate Students/ Researchers	MOE/MOST/ MOICE/MIC

# Major Policies for Women in SET

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Type	Programs	Objectives	Ministries
Utilization	<b>Promoting Employment of Women in S&amp;T in Public Sector</b>	Labor Market Entrants	MOST
	<b>Increase of Female Professors in State/Public Universities</b>	Ph.D. holders	MOE/MIC
	<b>Support for Competitiveness of Promising Female Researchers</b>	Ph.D. holders (unemployed)	MOE

# Major Policies for Women in SET

Type	Programs	Objectives	Ministries
Infrastruc- -ture	<b>WISE Program</b>	Whole	MOE/Regional Gov.
	<b>National Center for Support of Women in S&amp;T</b>	Whole (employed, )	MOST
	<b>Establish Database of Women in S&amp;T</b>	Whole	MOST
	<b>Survey on Women in S&amp;T</b>	Whole	MOST
Basis building	<b>Programs for Science Culture</b>	Youth/ General Public	MOST
	<b>“This Year’s Women S&amp;E Award”</b>	Researchers	MOST

# Good Practices (1): Promoting Employment of Women in Public Sector

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- Response to a lower representation of women in SET areas
- Government sets a goal of female employment for the public sector (25% until 2010)
  - Implemented for prescribed public organizations
  - Recommendation of expected women's ratio for each organization by considering characteristics of each organization/institute
  - Renewal of goals due to earlier achievement
- Output
  - Continual monitoring of women's proportion in the public organizations
  - Increased recruitment of female professors in national/public universities

# Good Practices (2): National Center for Support of Women in S&T (WIST)

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- Established by government support (MOST) and matching fund of participating university in 2004 (Ewha Women's Univ.)
- Activity areas
  - Gather and disseminate information about women in SET
  - Conduct a survey on the state of women in S&T and establish database
  - manage a portal site for recruit and provide tailored consulting
  - Provide diverse re-education courses for women with S&T education
  - Build network with relevant organizations in Korea and other countries
- Evaluation of the first-stage activities
  - Despite limitations in resources, WIST has been established quite successfully and conducted many activities
  - New and more focused goal-setting for the second stage is desirable (e.g. support for women's retention in SET jobs)

## Good Practices (3): WATCH 21

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- Support research and education projects in which high school pupils, (graduate) students and professors participate together
- Multiple goals
  - Attract talented young girls into careers in engineering
  - Give graduate students the opportunity to teach and mentor young pupils
  - Provide professors in engineering with the opportunity to work with female students/pupils
- Output
  - In 2005, 50 selected teams were supported (about 5,000 US\$ for each team)
  - After the end of projects, a seminar was held to award best research results and facilitate networking among project participants

# Conclusion

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- Women in SET is a prerequisite for a balanced and sustainable development in economy and society
- Support for women in SET is to be approached from both supply and demand side
- More policy efforts to expand the participation of women in labor market are needed
  - Important issue is the leave of women from career path due to the burden of child birth and care and households
- A systematic support is needed to meet various demands of women in broad spectrum



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# Thank You!

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