

International Workshop on
"Women in Science and Technology"
Network in Asian, 30 September 2006

Activities for Gender Equal Participation in Physics and S&T - Harvest of International and Asian Networking -



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Physical Society of Japan (JPS)

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Outline

1. Present Situation in Physics
2. Activity for Gender Equality of JPS, JSAP and EPMEWSE
3. EPMEWSE Survey Results- focused on Physics
4. Actions for the improvement of the Society
5. Summer School for High School Girls
– for Scientists and Engineers of tomorrow-
6. Childcare Supports during the JPS meeting and the Participation of JPS Committees
7. **Symposia (Every March)**
8. **International Collaboration**
9. Political Movements
10. Conclusion

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1. Present Situation in Physics

- Characteristics of two representative society in Physics

	number of members		women ratio	
	full	student	full	student
JPS	16k	2.5k	4.0%	9.4%
JSAP	24k	3.5k	3.6%	6.6%

JPS: Physical Society of Japan 60% academy

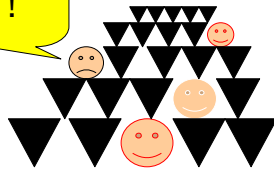
JSAP: Japan Society of Applied Physics

60% industry

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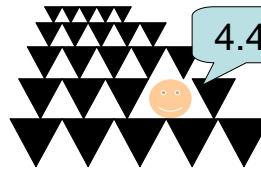
Participants of Conferences on subject of Physics

More than 15% !



29 Oct. 04,
9th Asia Pacific Physics
Conference,
Hanoi, Vietnam

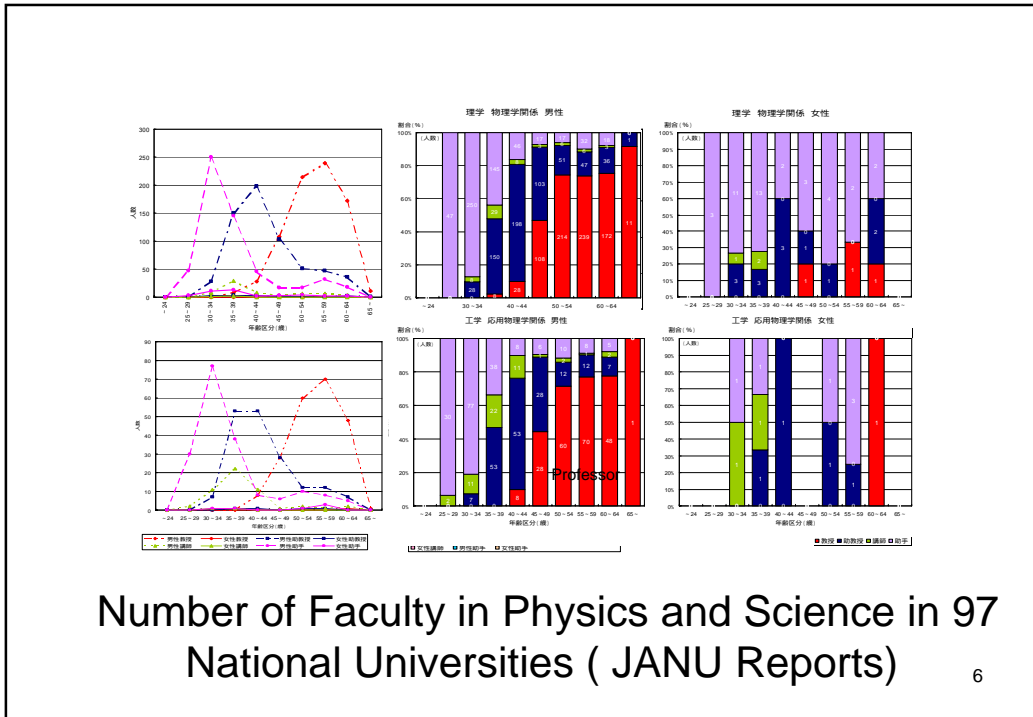
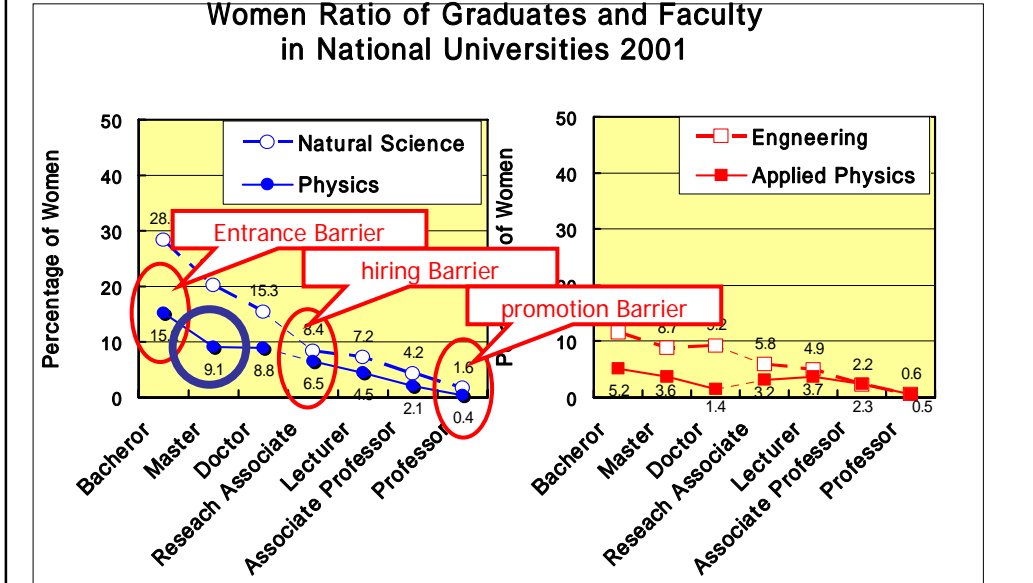
4.4%



29 Mar. 04,
59th Annual
Meeting of JPS,
Fukuoka, Japan

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Percentage of women in Academia



Factors necessary to maintain a balance between work and childcare, carding for sick family members and for oneself

Common

- working atmosphere,
 - flexible working hours,
 - diverse working style
- improvement of the leave system
- diversified leave system
 - system to allow work at home during leave.

Women urged more social support

- increase in daycare services,
- less distance between workplace and home
- financial support for childcare and elder care
- day care services for children who are ill.

Gender gaps

- change in mindset regarding gender roles

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Equal Participation of Men and Women

reason for the small female presence

Common

- difficult to maintain family and career
- women's mindset

More female than male respondents chose;

- men's mindset
- women hired less often than men
- difficult to attain managerial positions
- lack of role models

Higher percentage of male respondents (20%) chose;

- gender-based differences in aptitude

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2. Activity for Gender Equality of JPS, JSAP and EPMEWSE

Pre-History:

1985

- M. Bando and M. Toya; " Analysis of the activities and life cycles of the women researchers based on the national wide survey in 1984 "
- E. Yagi, Informal Meeting "Women Physicists" in JPS since 1987.

- **Equal Employment Act**

1992 **the Childcare Leave Law**

1999

- **enforcement of "Fundamental Law for Gender Equal Society"**
- F. Yonezawa, the first women president of JPS

2000 survey of IUPAP-WG "Women in Physics" for female physicists

2001 H. Fukuyama, a member of IUPAP-WG-WIP
"letter to the presidents of JPS and JSAP"

The Gender Equality Promotion Committee of the Physical Society of Japan JPS-GEP

- established in 2002 after the ***IUPAP International Conference on Women in Physics, Paris 2002*** for practice the resolution of the conference.
- The committee involves the twelve gender- balanced full-members and a group of net commentators.
- Net commentators consisting of emerging physicists with babies and kids, leaders in physics sub research and institutions, members of government committee, take part in on-line discussions by e-mails or the web forum being open for the exclusive use of the committee and occasionally participate in the committee meeting and other events on their convenience.

JPS-GEP members Sep. 2004-Aug. 2006 (partial)



Major JPS Activity for Promoting Gender Equality

- Surveys of JPS members
- Recommendations
- Joint Activities with EPMEWSE to appeal the Government and Society
- Promotion Symposia (Every March)
- International Collaboration
- Girls Science Summer School
- Childcare Supports during the JPS meeting and the Participation of JPS Committees
- Promotion and Support for applicants to the specified post doctoral positions return from child care leave (JSPS-RPD)

**Japan Inter-Society Liaison Association Committee for
Promoting Equal Participation of MEN and Women in
Science and Engineering
EPMEWSE**

- established in 2002
in responding a proposal of JSAP, JPS and the
Chem. Soc.of Jpn.
- 31 academic societies in S&T
- now involving 50 academic societies
- 4th EPMEWS Annual Symposium on
**“Emerge Women Researcher!! a New Wave to
Support Women in S&T”**
will be held on 6 Oct. 2006 in Univ. of Tokyo

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Joint Activity with EPMEWSE

- EPMEWSE survey research project by 39 academic societies
in 2003
Report on the project “ **Diverse Visions of Scientists and
Engineers in the 21st Century – For the Promotion of
Gender Equality**”.
- Recommendations
 - Recommendation on Childcare supports 2004
 - Recommendation on Application to Research Budget by Post
doctors 2004
- Summer School for High School Girls – for Scientists and
Engineers of tomorrow - 2005, 2006

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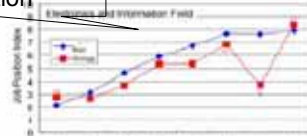
3. EPMEWSE Survey Results- Focused on Physics

- (1) EPMEWSE nationwide survey in collaboration with 39 academic societies on the present status and awareness on the gender equality and the research environment of their 100,000 members in total in 2003.
- 19,291 have respond, 84% male, 16% female.

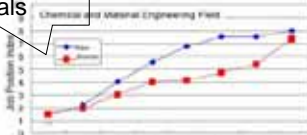
The underrepresentation of women is more serious in higher-ranked academic positions; in the same year, there were only 4 (four) women full-professors among the 999 professors in the physics departments both in faculties of science and engineering in total of 99 national universities.

Issues extracted from the survey: Gap in Job Position

Electronics & Information



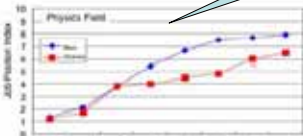
Chemical & Materials



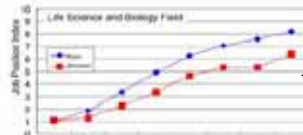
Civil Engineering



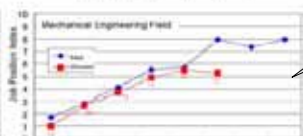
Physics



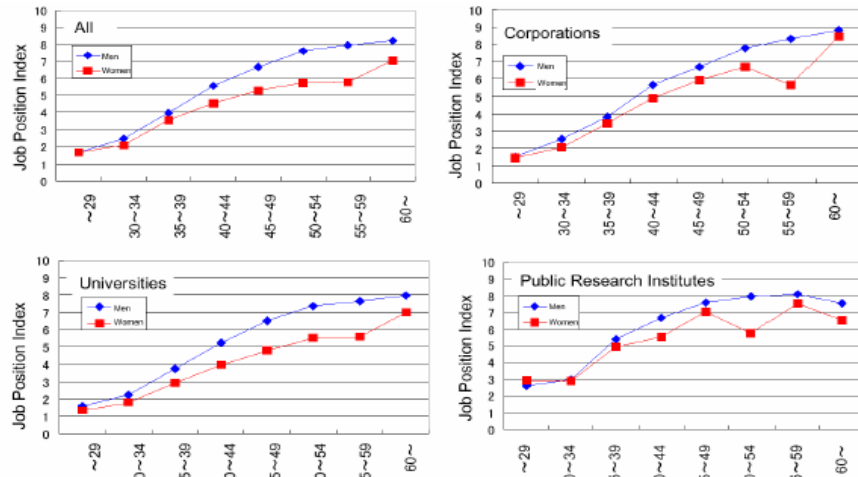
Life Science



Mechanical Engineering

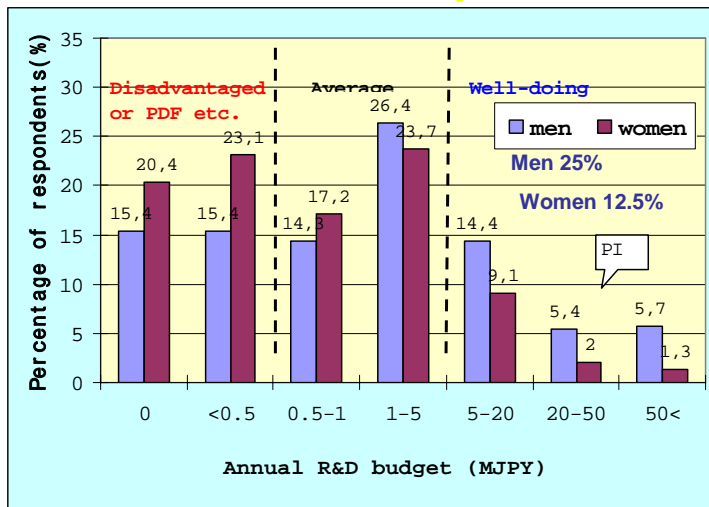


Issues extracted from the survey: Gap in Job Position



Issues extracted from the survey gender gap in annual R&D Budget

Physics



Researcher with budget above 20M JPN is assigned as Principal Investigator (PI).
3.3% of women
11.1% of men

Need more detailed analysis.

Issues extracted from the survey: Number of Children by Affiliation

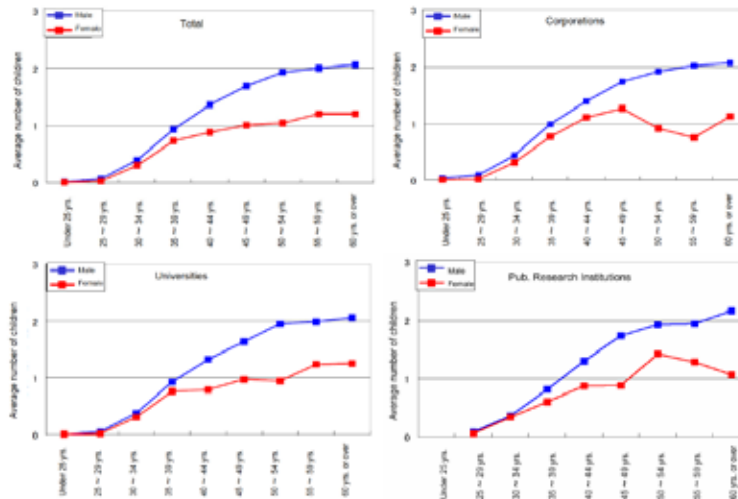
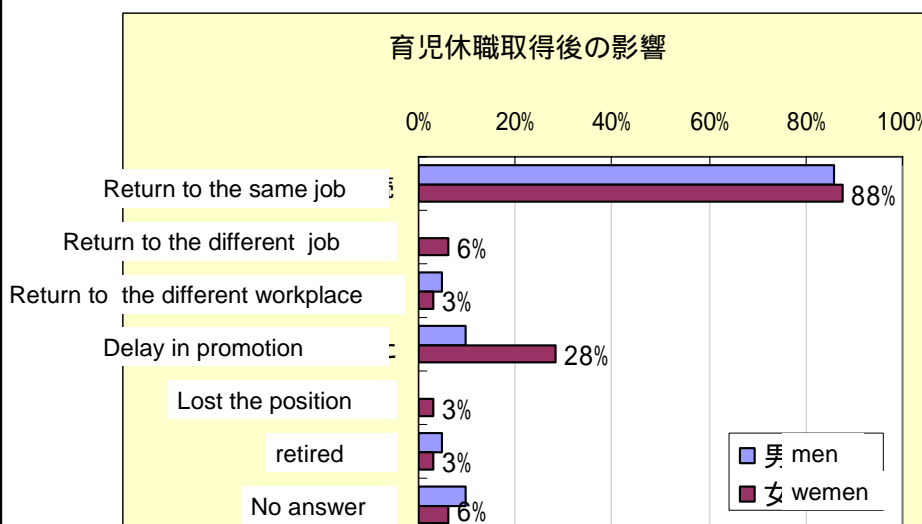


Fig. 2.13 Average number of children by age group for each type of affiliated organization

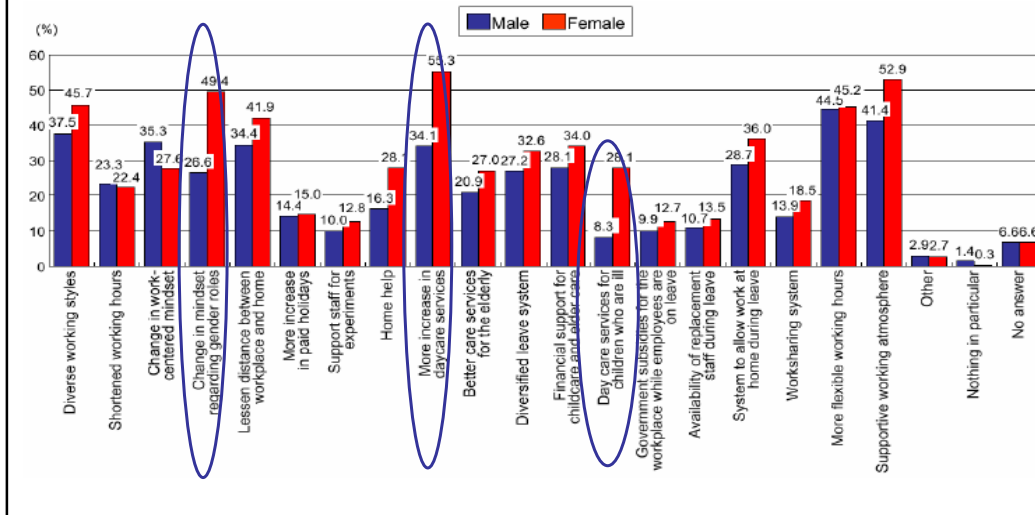
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Effect of Child care leave



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Factors Necessary for Work/Life Balancing



Factors necessary to maintain a balance between work and childcare, carding for sick family members and for oneself

Common

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Equal Participation of Men and Women

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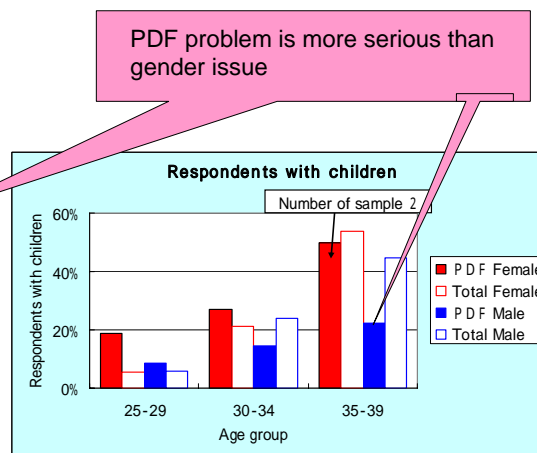
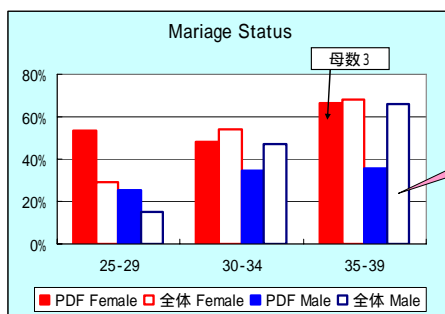
- men's mindset
- women hired less often than men
- difficult to attain managerial positions
- lack of role models

Higher percentage of male respondents (20%) chose;

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Mariage and Paranting Status: issues related to postdoctoral fellows(PDF)



Summary of the Survey Analysis(1)

- Wide gender gap in the field of S&T in Japan
 - Delay in Promotion (especially, in universities)
 - Wider Gap in R&D Resource Allocations
- Gender gap as a consequence of long-standing fixed gender role in Japanese society
- We proposed actions on R&D funding and support for childbearing based on the survey data.

Summary of the Survey Analysis(2)

- Encouragement
- supportive atmosphere
- a little support that can be flexibly adapted by each research and life style

will be necessary to keep the women scientists on their carrier path.

Summary of the Survey Analysis(3)

- Wide gender gap in the field of S&T in Japan
 - Delay in Promotion (especially, in universities)
 - Wider Gap in R&D Resource Allocations
- Gender gap as a consequence of long-standing fixed gender role in Japanese society
- We proposed actions on R&D funding and support for childbearing based on the survey data.

4. Actions for the improvement and change in the society (4)

Recommendation to the Organization of the Research Grant to Remove the Restriction for Applicants

by JPS in August 2003 and by EPMEWSE in Oct. 2004

1. As for the existing all of the Research Grants, application should be accepted by the researcher without any restrictions of he or she being permanent staff or not.
2. There should be new research grant system which can promote significant research activities among the non-permanent researchers
3. Among the members of the selection committees for research grant or staff, there should be female members.

4. Actions of by EPMEWSE for the improvement and change in the society(5)

- Requirement for the government on the Science and Technology Basic Plan
 - Support the PDF with children
 - Support for research groups which include high women percentage
 - Show numerical goal and time table on the women percentage in S&T.
- Requirement for the Science Council of Japan
 - Increase the women percentage towards 30% in total area.

5. Summer School for High School Girls – for Scientists and Engineers of tomorrow-

- To attract girls into science and engineering, the JPS has organized the Girls Science Summer School in August 2005 in collaboration with the National Women Education Center and the EPMEWSE.
- Purpose: providing an opportunity to
 - > interact with actual women scientists and engineers to know how they are enjoying their jobs and lives as well
 - > support networking of girls who are interested in S&T
- 56 girls have enjoyed 2 days camp; lectures by scientists and engineers, overnight discussions with each other and tutors of women graduate as well as undergraduate students.
- 20 women graduate and undergraduate students assist the program.



Lectures: Pleasant world of S&T



Challenge the Scientific Puzzles by women students



Networking of girls concerned on S&T



Interaction with scientists and students of S&T

2-nd Summer School for Highschool Girls – for Scientists and Engineers of tomorrow-

- In 2006, the 2-nd summer school is organized as a MEXT commissioned project
joint organizer: MEXT, NVEC, SCJ
- 111 high school girls enjoyed the program:
lectures, experiments, discussions, scientific puzzles
- 7 talks by scientists, engineers, technicians, and students
- 7 experiments by academic societies
- 29 booth of career counseling by academic societies
- 30 women graduate and undergraduate students assist the program.

The small stone creates ripples in the society

MEXT is going to support more local events for encouraging middle high school and high school girls into Science and Engineering : now competition.

6. Childcare Supports during the JPS meeting and the Participation of JPS Committees

Daycare during the JPS biannual meeting:

- since March 2000,
- was realized on request of the Informal Meeting on Childcare during the JPS meeting established in 1997.

Partial support of sitter expenses for the JPS committees:

- since 2003,
- is available for both women and men who need a baby sitter or an extra-charge for daycare during their participation.

7. Symposia (Every March)

- The JPS organized symposia on subjects relating to promote the gender equality in the JPS annual meetings, since 2002.
- 1. "Women in Physics: Survey Results of JPS Members and Report on the Paris Conference", 2002.
- 2. "Promotion of the Gender Equality: Balancing Childcare and Physics ", 2003.
- 3. "Evaluation of Researchers", 2004.
organized by the Survey Analysis Committee.
- 4. "Promotion of the Gender Equality: on the Occasion of the revision of the Basic Plan for Science and Engineering", 2005. main subject was post doctoral issue
- 5. "Action under the Supporting Policies of Government just getting started", 2006.

8. International Collaboration

- IUPAP International Conference on Women in Physics, in Paris 2002 and in Rio de Janeiro in 2005.
- Asian Women in Physics Networking in Pohang, Korea Oct. 2005

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9. Political Movements

- **The 3rd Science and Technology Basic Plan (FY2006-FY2010)**
- **Promotion of women in science and technology**
Enforced Financial Support in 2006

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The 3rd Science and Technology Basic Plan (FY2006-FY2010)

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(v) Promoting the activities of female researchers

-**funding agencies** are expected to take:

measures for balancing of research and child birth/rearing

by acknowledging **a fixed period of respite or postponement**

following child birth/ rearing in receiving competitive funds

-**universities and public research institutions** are expected:

general improvements, activities including **consciousness reform** by

providing **support for the balancing** of research and child birth/ rearing in

the action plan to be formulated and implemented based on **the Law for Measures to Support the Development of the Next Generation.**

-**the government** will provide:

support for research institutions that are implementing efforts that others should follow (positive models with good practices)

<By the courtesy of Ms. Noriko Shiomitsu>

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The 3rd Science and Technology Basic Plan (FY2006-FY2010)

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-For the diversity,

universities and public research institutions are required:

fair recruitment after **openly seeking** female researchers and candidates; promoting female researchers for **advancement** and **participation in policy-making bodies**

-Concerning the percentage of female researchers,

hoping the efforts to promote the active recruitment of female researchers by

each organization by: **setting a numerical target** for the recruitment of

women, **making efforts** to achieving that target, **disclosing the status of achievement**, while taking into account the percentage of women in the doctorate courses of the relevant fields

-Judging from the percentage of women in doctorate courses now, the

prospective recruitment target of female researchers for natural sciences as a whole

is **25 percent** (**science: 20 percent, engineering: 15 percent, agronomics: 30 percent, healthcare: 30 percent**)

<By the courtesy of Ms. Noriko Shiomitsu>

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The 3rd Science and Technology Basic Plan (FY2006-FY2010)

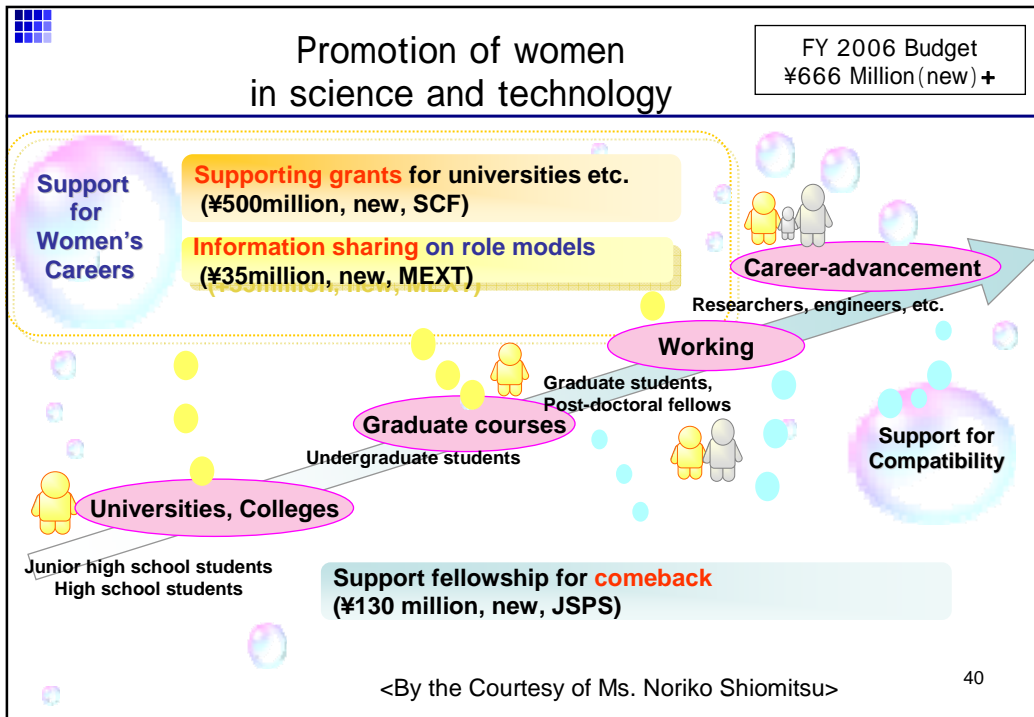
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-the government will **grasp** and **disclose the status** of those efforts on the numerical targets for **recruitment** by the universities and public research institutions, and the percentage of female researchers by **job classification (promotion)**

-with the efforts to increase **children who like science and mathematics**, the government will promote the provision of information such as familiar examples (**positive role models**) to encourage **girls into the S&T fields**

By the Courtesy of Ms. Noriko Shiomitsu

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10. Conclusion

- What were changed/unchanged after the data.
- Evidence-Based (Scientific Data, Personal Experience) Advocacy Changes the Policies.
- International as well Asian Networking of Women in Physics has triggered these movements.