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Development Situation, Issues and Policy Suggestions for Chinese Female Researchers

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1. Introduction

- ✓ Although continued growth in the number of female researchers since the 1990s, however, the proportion of the world's women scientists is still less than $1/3$
- ✓ On the other hand, with the growth of female education, jobs increased and enhanced influence, however, the number of outstanding women scientists are less and less. For example, female Nobel winners are only share 5.3% of the total number of winners (46/869) since 1901.
- ✓ European Commission has published the forth “She-Indicator” in March 2013 which is shown that participation rate of women researchers in EU science and engineering fields is only 32 %, in the related industrial fields of the largest R&D investment, the proportion of women researchers is only 19%



1. Introduction

-- Literature Research Status in China

- S&T Policy Institute of CAS, the project *Situation Study on Chinese Women work in Science and Technology* (2013)
- Zhu Lilan, *Chinese Women and S&T Development* (2012)
- Jing Huaibin, *Chinese people Gender Differences in achievement motivation* (2014)
- Zhao Lanxiang, *Women subjective preferences affect gender stratification of Chinese science and technology* (2013)
- Yang Li, *Research on Group Situation of Chinese Women Scientists* (2012)

Overall, lack of comprehensive and systematic study, both quantitative and qualitative about women researchers in China.



2. Related Policies for Women Researchers in China

- **Science and Technology Progress Law (2008 revised)** expressed that women researchers shall enjoy the equal rights
- Set up a series of policies **to promote the carrier development of women researchers, especially senior female scientists** by The All-China Women's Federation (ACWF), Ministry of S&T of China (MOST), China Association for Science and Technology (CAST), National Natural Science Foundation of China (NSFC) and so on.
- In 2011, MOST and ACWF joined issued *Opinions on Promoting Female S&T Talent Construction*, give a clear policy for **Increasing the proportion of female S&T personnel, return to research work after the female fertility, senior female experts can choose retirement age voluntarily** , and so on.



2. Related Policies for Women Researchers in China

- In 2004, ACWF and CAST jointly established **Young Chinese Women Scientists Awards**
- In 2009, CAST set up **Chinese Women Researchers Special Committee**, established **Chinese women researchers labs** and constructed **Chinese Women Researchers Website(2011)** to show excellent female scientists' achievements and their style.
- In 2010, NSFC stated for the first time: **Women researchers have the priority under equivalent conditions in research project reviewing, if possible, gradually improves the proportion of women experts. The age limits from 35 to 40** for women researchers to apply the Young Scientists Foundation, and **project can extend upon the expiration because of pregnancy and breastfeeding.**



3. Development Situation of Chinese Female Researchers

- ✓ Until 2011, there are **24.91 million** female S&T human resources which accounts for **40%** in China. Most of them received high level education, master degree accounts for **42.2%**, **doctor degree accounts for 30.2%**.

Table Number and proportion of Chinese female researchers by degree level (2011)

Degree level	Total number (million)	Female Resources (million)	Female share (%)
Master	2.87	1.21	42.2
Doctor	0.43	0.13	30.2
Total	3.3	1.34	40.6

Data : 2012 Chinese Human Resources in Science and Technology Report, 2014.



3. Development Situation of Chinese Female Researchers

- A small number of prominent female scientists, a low proportion
- Distributing mainly in education and health sectors (50%), the proportion of natural science and engineering fields has being reduced (25%)

Table Prominent Female Scientists in China

Personnel types	Academician of CAS	Academician of CAE	Hundred-Talent Program Expert	Cheung Kong Scholar Program Professor	Outstanding Youth Science Foundation Expert	Chief Expert of 973 Program
Female number	58	47	90	76	122	8
Share of %	7.73%	5.82%	7%	5.1%	6%	4.6%



3. Development Situation of Chinese Female Researchers

- **Female Scientists win the National Science and Technology Award**

Female scientists less number of winners, a low proportion

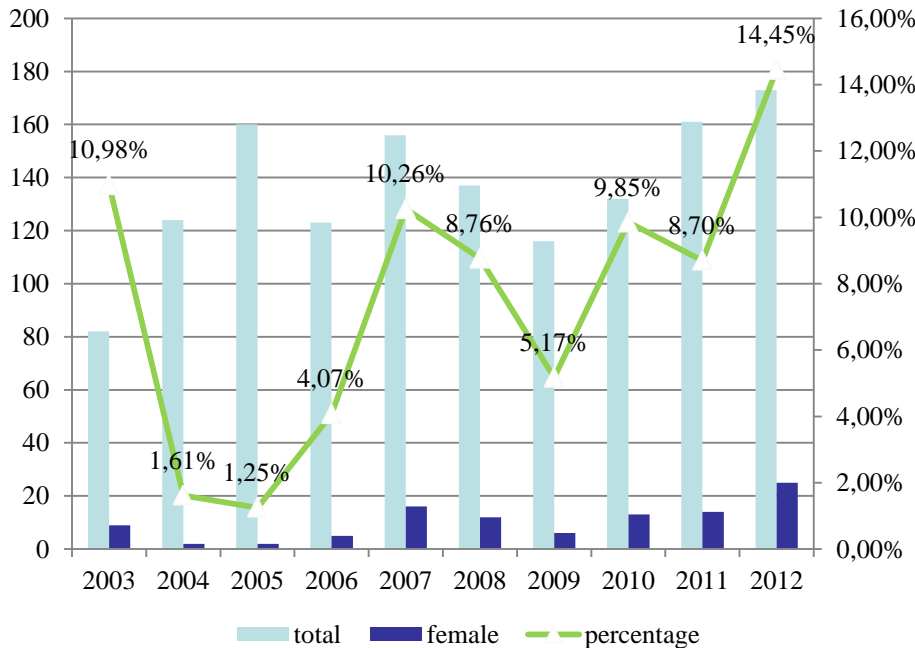


Figure 2003-2012 Women won National Natural Science Award

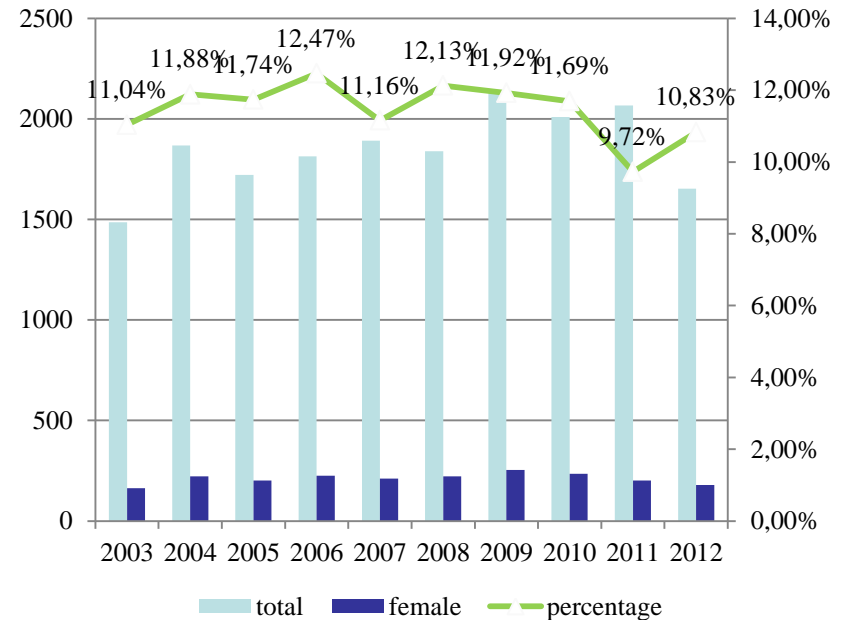


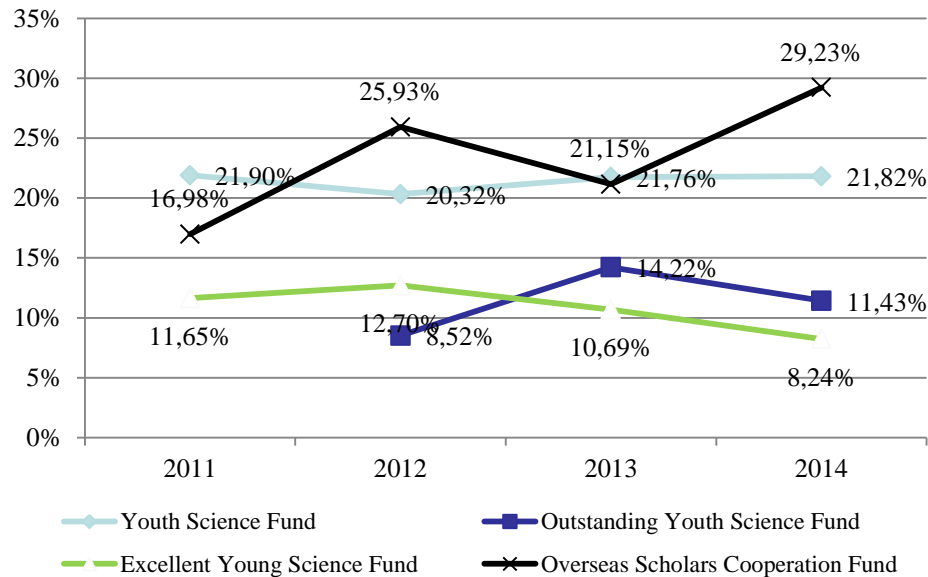
Figure 2003-2012 Women won National S&T Progress Award



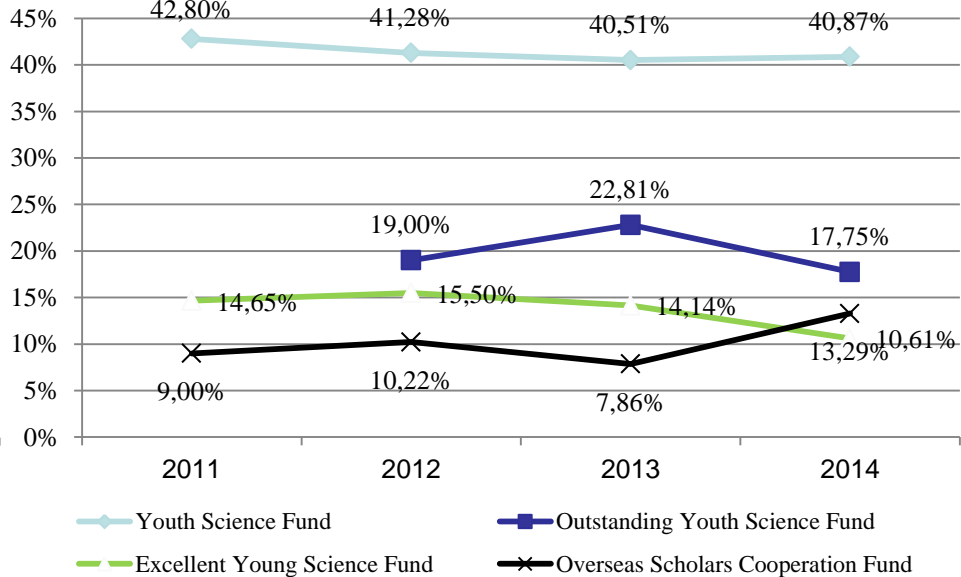
3. Development Situation of Chinese Female Researchers

- Female researchers got projects funded by NSFC

Project funded proportion and funding rates for female scientists were lower than those of male scientists



NSFC project funded proportion by female scientist (2011-2014)



NSFC project funding rates for female scientist (2011-2014)

Data : 2011-2014 "National Science Foundation Report"



4. The Main Issues of Chinese Female Researchers in Their Career Development

By the Survey's results, there are four aspects of main problems in career development of Chinese female researchers:

- ✓ **Lack of systemic and special incentive policies for female researchers**
- ✓ **Lack of working conditions and environment that fits for female researchers**
- ✓ **Lack of scientific and rational evaluation mechanism for female scientists**
- ✓ **Lack of specialized research funding mechanisms for female scientists**

In addition, socio-cultural, female psychology, childbearing , family responsibilities are also the important factors affect the development of



5. Policy Suggestions

- 1. Strengthen and implement the research funding and incentives policy : female priority under the same conditions**
- 2. Support female researchers to carry out a wide range of scientific and technological cooperation and exchanges at home and abroad, promoting their integrate into the mainstream academic network, strengthening women scientists' team building**
- 3. Set up special research funds, talents program and incentive mechanism for female researchers**
- 4. Establish and improve the research evaluation system and incentive mechanism appropriate for the characteristics of female researchers**
- 5. Improve the personnel system and environment of academic institutions, to promote career development of female researchers**



Thank you !