United Nations Educational, Scientific and Cultural Organization

Sustainable Development Goals

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SWEDEN

STEM and Gender Advancement (SAGA)

Gender Summit 10

25-26 May 2017

Tokyo

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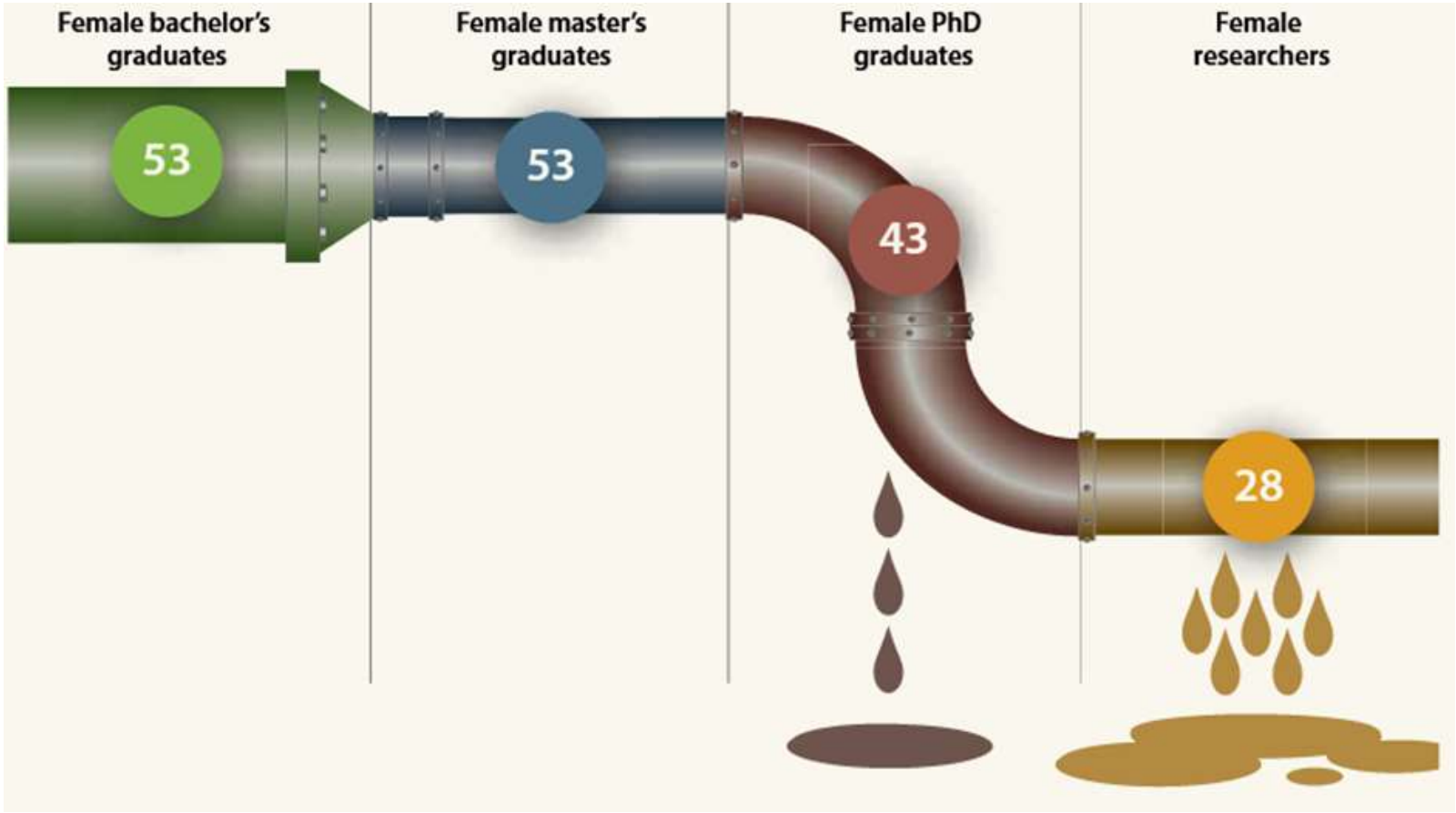
The leaky pipeline

The leaky pipeline: share of women in higher education and research, 2013 (%)



Source: UNESCO Science report: Towards 2030 (2015. Data from UIS estimates)

Gender Equality: UNESCO global Priority

- **Gender Equality** is one of UNESCO's two **global priorities**, with a commitment to promote equality between women and men across the Organization's mandate.
- Gender Equality is not only a fundamental human right, but a necessary foundation for the creation of sustainable and peaceful societies and it should also be considered as crucial means to promote scientific and technological excellence

Background

- STI policies and policy mechanisms for Gender Equality are partially in place in many countries. Learning from these experiences and tools for fixing the gaps in the policy mix are necessary.

- Urgent need to develop new indicators and methods to collect and analyse sex-disaggregated data on women's participation in STEM around the world, in order to elaborate and implement appropriate solutions.

STEM and Gender Advancement (SAGA)

UNESCO and women in science

- UNESCO's Natural Sciences Sector has over 30 years experience in studies on:
  - the integration of the gender dimensions of policies related to the development and application of STI for sustainable development
  - has published the most comprehensive manual on gender indicators in science and engineering
  - a partnership of **UNESCO and L'Oréal Corporate Foundation For Women in Science** (FWIS) started in 2000

- UNESCO Institute for Statistics (UIS) looked into science, technology, engineering and mathematics (STEM) gender indicators in 2006 by going beyond the regular R&D data broken down by sex that the UIS collects
- In 2007, the Natural Sciences Sector and UIS released the first international report: *Science, Technology and Gender*

SAGA joins these forces and builds on them

Goals of the SAGA project

- Contribute to reduce the **gender gap** in **scientific and engineering fields** in all countries at all levels of education and research
- Analyse **gender related policies and indicators** and how they affect the gender balance in STEM
- Support evidence-based policy making and Strengthen gender equality perspectives in **science policy design**

SAGA Tools to:

- **Assess the coverage of national STI gender-related policies and indicators**
- **Identify main gaps in gender-related STI policies** with a mapping of STI policies in place.
- **Identify drivers and barriers to careers in science and engineering**

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4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

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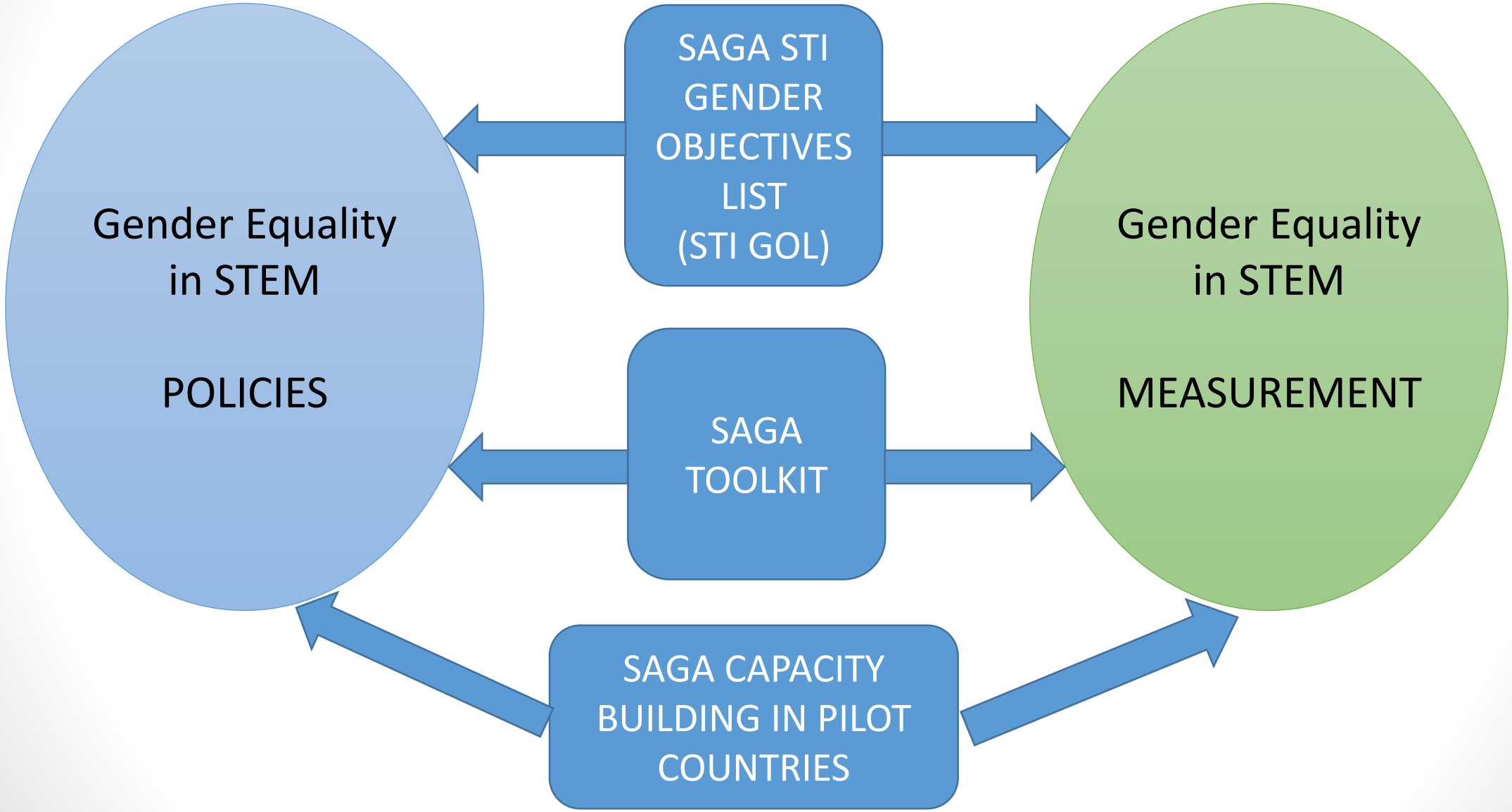
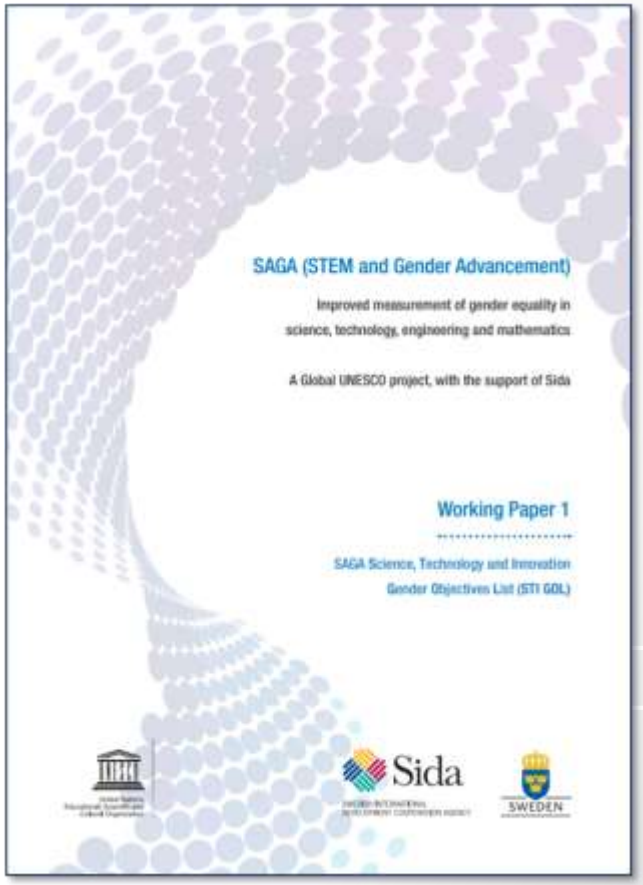
The SAGA Project



The SAGA Science, Technology and Innovation Gender Objectives List (STI GOL)

- Enables the categorization of STI policies and policy instruments, and indicators and assists in identifying gaps in the STI policy mix.
- Aims at encompassing all aspects of gender equality in policy making in STI.
- It has be reviewed by a group of international experts in science policy, indicators and gender equality



SAGA Advisory Committee and Partners

The Seven Gender Objectives

- Social norms and stereotypes
- Primary and secondary education
- Higher education
- Career progression
- Research content, practice
- Policy-making processes
- Entrepreneurship and innovation

Objective 1: Social Norms and Stereotypes

1. Change perceptions, attitudes, behaviours, social norms and stereotypes towards women in STEM in society	
1.1	Promote awareness of and overcome non conscious and cultural gender biases widely expressed as gender stereotypes, among scientists, educators, policy-makers, research organizations, the media, and the public at large.
1.2	Promote visibility of women with STEM qualifications and in STEM careers, especially leadership positions in governments, business enterprises, universities, and research organizations.
1.3	Mainstream gender perspectives in science communication and informal and non-formal STEM education activities, including in science centres and museums.

Objective 2: Primary and Secondary Education

2. Engage girls and young women in STEM primary and secondary education, as well as technical and vocational education and training	
2.1	Promote S&E vocations to girls and young women, including by stimulating interest, fostering in-depth knowledge about S&E career issues, and presenting role models.
2.2	Mainstream the gender perspective in educational content (teacher training, curricula, pedagogical methods, and teaching material).
2.3	Promote gender-sensitive pedagogical approaches to STEM teaching, including encouraging hands-on training and experiments.
2.4	Promote gender balance among STEM teachers.
2.5	Promote gender equality in STEM school-to-work transitions.

Objective 3: Higher Education

3. Attraction, access to and retention of women in STEM higher education at all levels	
3.1	Promote access of and attract women to STEM higher education (including Masters and Ph.D.), including through specific scholarships and awards.
3.2	Prevent gender bias in the student admission and financial aid processes.
3.3	Promote retention of women in STEM higher education at all levels, including through gender-sensitive mentoring, workshops and networks.
3.4	Prevent gender-based discrimination and sexual harassment at all levels, including Masters and Ph.D.
3.5	Promote gender equality in international mobility of students.
3.6	Promote day care/child care facilities for students particularly at STEM higher education institutions.

Objective 4: Career Progression

4. Gender equality in career progression for women scientists and engineers (S&E)	
4.1	Ensure gender equality in access to job opportunities, recruitment criteria and processes.
4.2	Promote equal work conditions through, among others: • gender balance in remuneration • preventing gender bias in performance evaluation criteria (including productivity measurement) • adequate safety and security of fieldwork • sexual harassment prevention policies and procedures.
4.3	Ensure gender equality in access to opportunities in the workplace: • training and conferences • research teams, networks (national and international), expert panels and advisory groups • publications and patent applications, including preventing bias in review • financial and non-financial incentives • recognitions, rewards and awards

Objective 4: Career Progression

4. Gender equality in career progression for women scientists and engineers (S&E)	
4.4	Promote work–life balance through, among others: • infrastructure for child care • flexible working hours • reduction and redistribution of unpaid care and domestic care • family leave for both parents • appropriate re-entry mechanisms to the S&E workforce after career break or family leave.
4.5	Promote gender equality in international mobility of post-docs and researchers, and facilitate women's return.
4.6	Promote gender balance in leadership positions in S&E occupations (including decision making and research).
4.7	Promote transformations of STI institutions and organizations (structure, governance, policies, norms and values) aimed at achieving gender equality.
4.8	Ensure gender equality in S&E professional certifications, in particular in engineering

Objective 5: Research Content, Practice and Agendas

5. Promoting the gender dimension in research content, practice and agendas	
5.1	Establish specific gender-oriented R&D programmes, including research on gender in STEM and on the gender dimension of the country's research agenda and portfolio.
5.2	Incorporate gender dimensions into the evaluation of R&D projects.
5.3	Promote gender-sensitive analysis in research hypotheses and consideration of sex of research subjects.
5.4	Promote gender responsive and gender-sensitive research dissemination and science communication, including through science centres and museums, science journalism, specific conferences, workshops, and publications.

Objective 6: Policy-making Processes

6. Promote gender equality in STEM-related policy-making	
6.1	Ensure gender balance in STEM-related policy design (decision makers, consultative committees, expert groups, etc.): • Education policy • Higher education policy • STI policy • Economic policy • Workforce policy • SDGs/international policies.
6.2	Ensure gender mainstreaming and prioritization of gender equality in STEM-related policy design, monitoring and evaluation: • Education policy • Higher education policy • STI policy • Economic policy • Workforce policy • SDGs/international policies.

Objective 7: Entrepreneurship and Innovation

7. Promote gender equality in science and technology-based entrepreneurship and innovation activities	
7.1	Promote gender equality in access to seed capital, angel investors, venture capital, and similar start-up financing.
7.2	Ensure equal access to public support for innovation for women-owned firms.
7.3	Ensure visibility of women entrepreneurs as role models.
7.4	Ensure women's access to mentorship and participation in the design and implementation of gender-sensitive training in entrepreneurship, innovation management, and Intellectual Property Rights.
7.5	Promote networks of women entrepreneurs and women's participation in entrepreneurship networks.
7.6	Promote gendered innovation approaches.
7.7	Promote external incentives and recognition for women-led innovation and acceptance of women innovators in society.
7.8	Promote gender equality in the access and use of enabling technology, in particular information and communication technology.
7.9	Promote a gender balanced workforce and equal opportunities in start-up companies.

SAGA Project implementation

Phase 1:

2015-2016

Elaboration of material and tools

Phase 2:

2016-2017

Implementation of tools in pilot countries

Phase 3:

2018

Publication and official release of SAGA final report

SAGA Pilot countries (so far)

Africa
- The Gambia (upcoming)

Arab States
- Lebanon (upcoming)

Asia and Pacific
- Thailand

Caribe
- Jamaica (upcoming)

Latin America
- Argentina
- Uruguay

North America
- Canada (Province of Quebec)

Country reports

Main outcome: Inter-Institutional Committee

To ensure the highest impact, national key partners are creating national team to cooperate with UNESCO

- the Ministry of Science and Technology;
- the Ministry of Education;
- the National Commission on Women's Affairs;
- the National Statistical Office;
- the academic community;

plus other institutions

Example of Inter-institutional committee
In Uruguay the Inter-institutional committee is composed of approximately 20 participants from more than 10 institutions such as members from:

- Ministry of Education and Culture
- Department of Science and Technology
- Agency of Innovation and Research
- University of the Republic
- National Administration of Public Education
- National Institute of Women
- Clemente Estable Biological Research Institute

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The national inter-institutional committees

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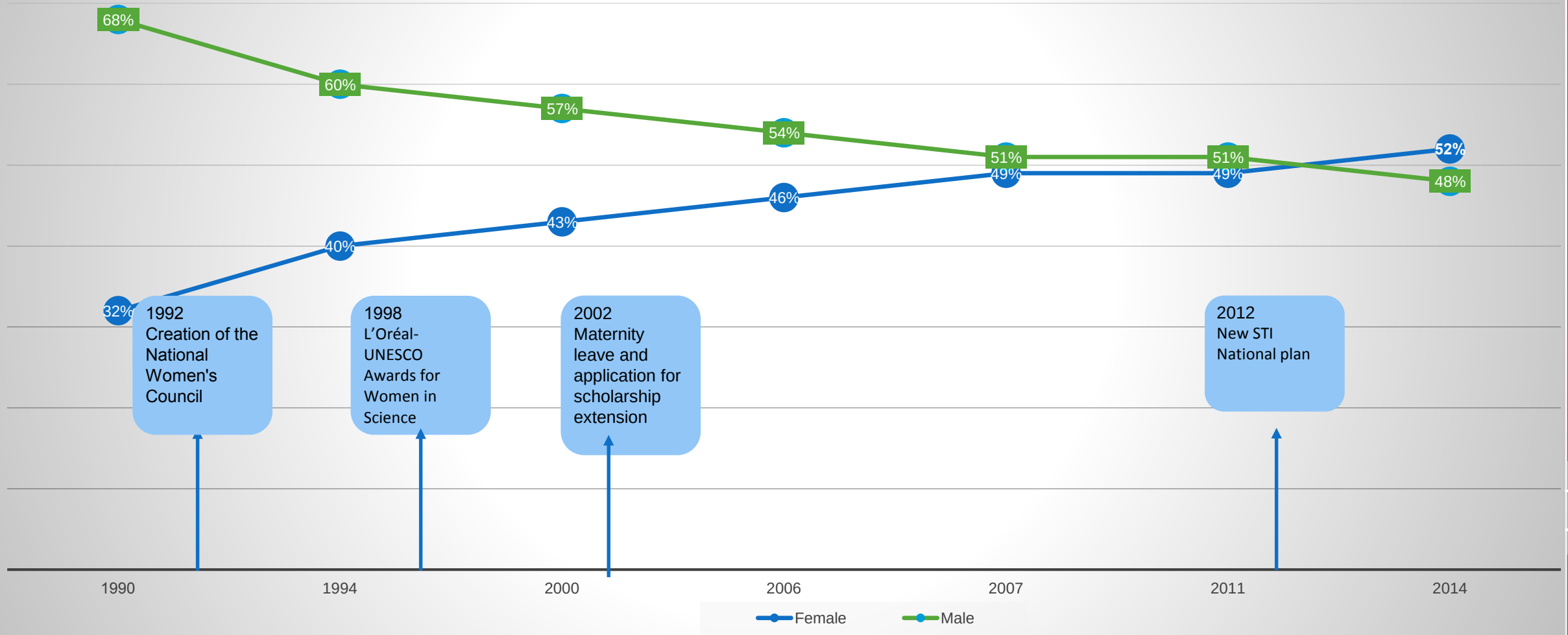

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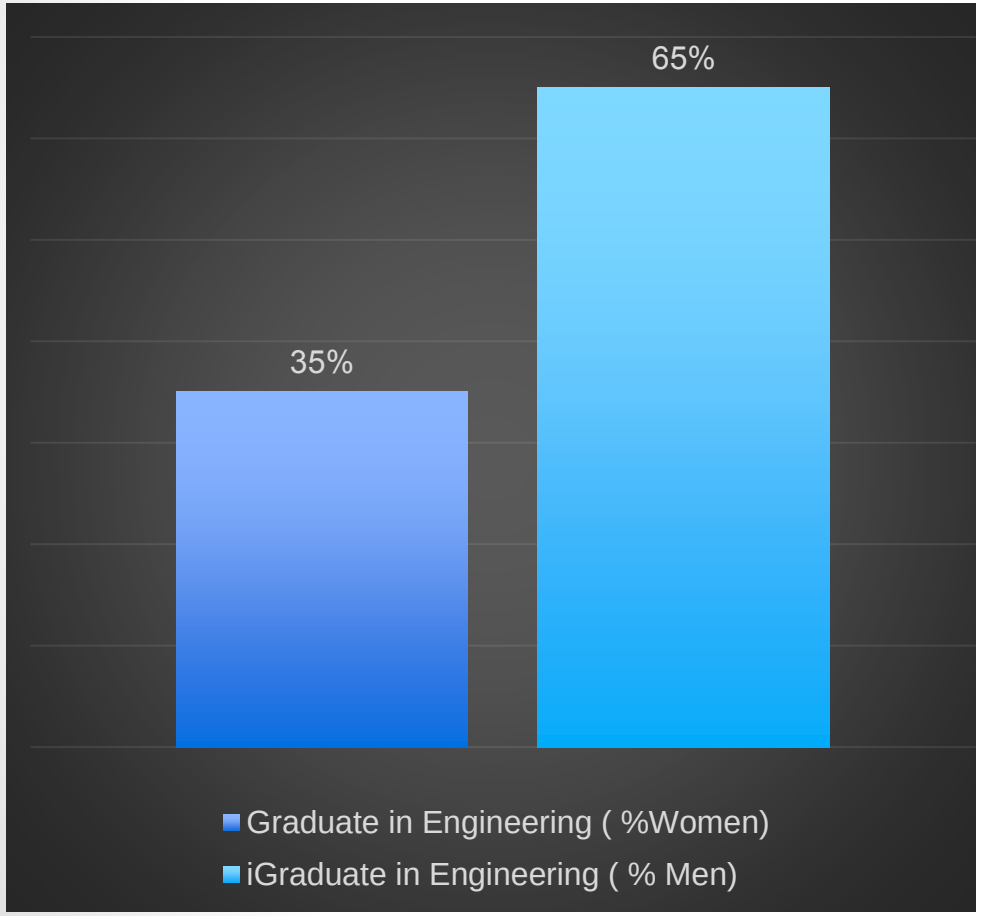

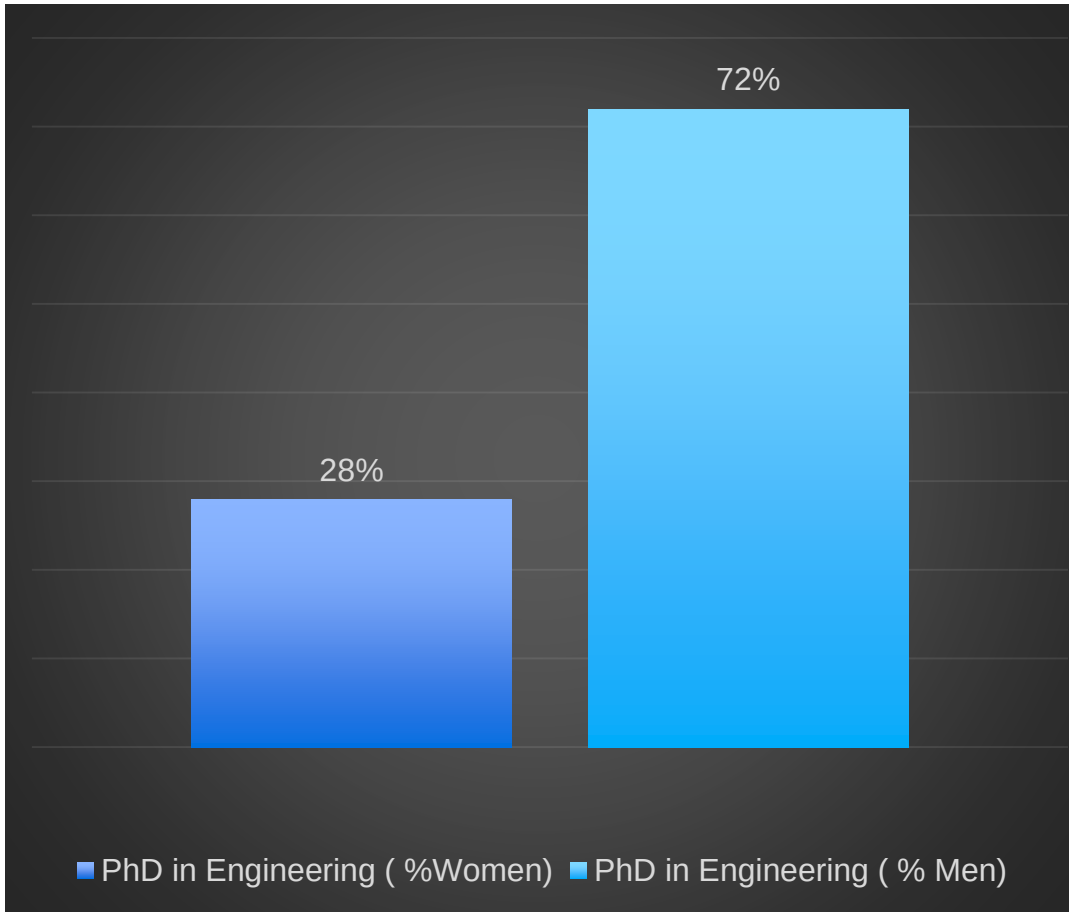

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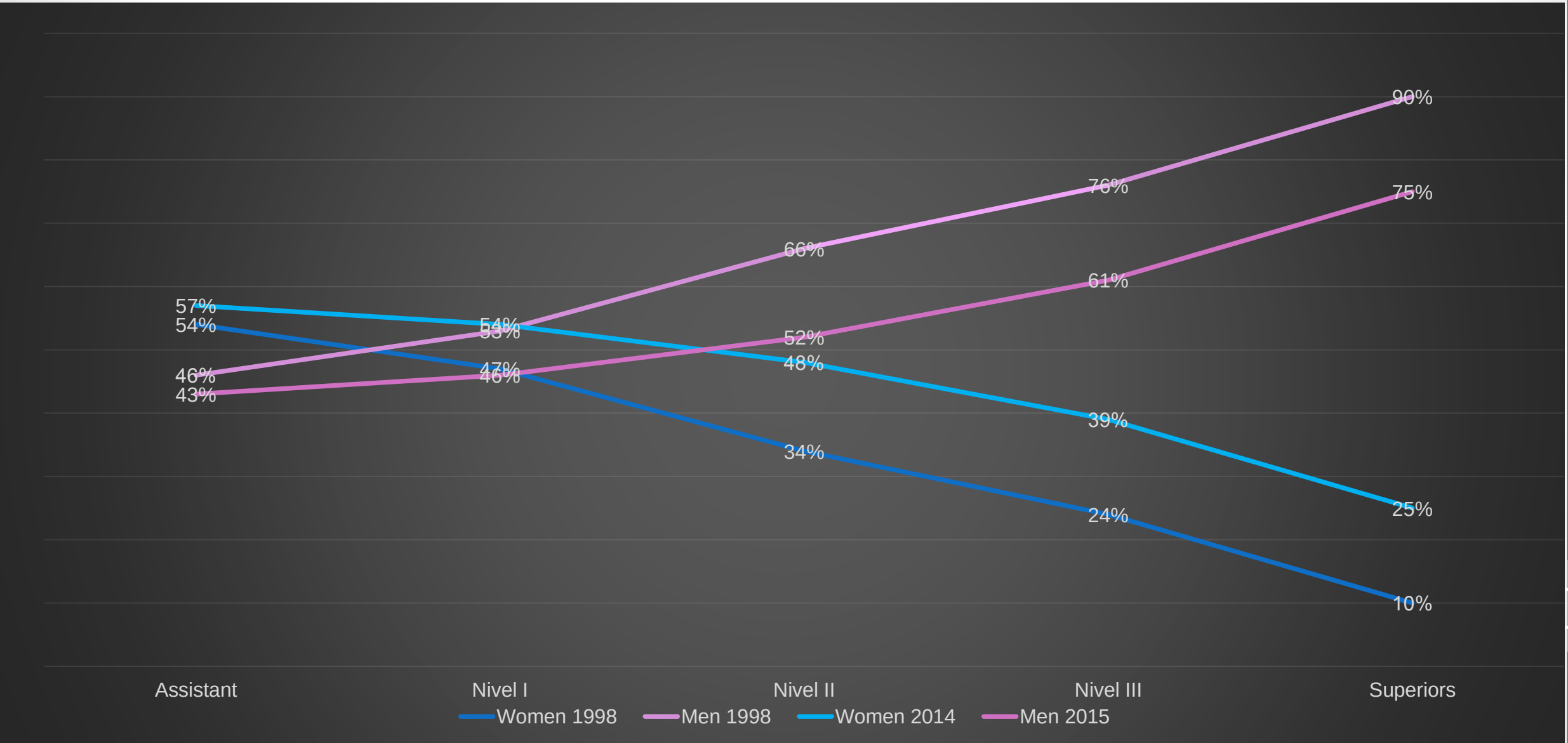
Researchers by sex and by level



Be part of the change!
Be part of SAGA!
and
don't forget to sign and promote the

http://www.forwomeninscience.com/en/manifesto

Thank you!

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http://en.unesco.org/saga