

WOMEN'S LEADERSHIP IN THE GLOBAL SCIENCE SYSTEM

GenderInSITE is a global initiative aimed at promoting the role of women in science, innovation, technology and engineering (SITE) and demonstrating how the application of a gender lens to SITE can lead to more equitable and sustainable development. GenderInSITE recently published the report "Pathways to Success: Bringing a Gender Lens to the Scientific Leadership of Global Challenges". It draws attention to the complexity of science production and the multiple levels that comprise the global scientific system, and explores women's leadership pathways to achieve stronger gender equity.

It is widely acknowledged that women are under-represented in senior scientific leadership positions and that there is a decline in the proportion of women at each step of the ladder to the top, commonly referred to as the 'leaky pipeline' effect. It is also recognized that women often follow different pathways from their male counterparts as they progress towards more senior positions.

Within the context of the United Nations' Agenda 2030 and the drive to achieve the Sustainable Development Goals (SDGs), it is imperative that women's voices are included in scientific leadership, in scientific agenda setting and within scientific research itself, where the gender dimension is often overlooked.

There have been many efforts aimed at quantifying the extent of the gender gap

problem in scientific leadership, as well as efforts to understand why these inequalities continue to exist. Much less work, however, has focused on the successes, which is the topic of this report.

By focusing on a 'pathways' approach, the report highlights the routes taken by women on their journey to the top and seeks to provide key lessons for younger women to follow in their footsteps, and also gives guidance for policymakers aiming to provide support for more women to assume science leadership roles. The 'pathways' approach recognizes that:

- Men and women do not experience or advance in their scientific careers in the same way
- Scientific 'systems' and conventional understandings of leadership are *not* gender neutral; they are oriented to accommodate men and their traditional roles and expectations
- Dominant narratives about scientific leadership preclude women's needs and roles.

Interviews with leading female scientists sought to understand how some women have successfully reached senior leadership positions in global science, despite there being no clear signposting for them to navigate their way. The report highlights their alternative pathways to success, and how, in their success, they have championed institutional change which can be so elusive and hard to achieve.

Based on interviews with female science leaders, six key themes emerged. They are:

- Commitment to addressing a problem and a drive to use science to serve humanity and make a difference in the world
- Refusal to give up despite being faced with obstacles and lack of support
- Mentoring and role modelling
- Developing their own set of skills and style to exercise leadership
- Leveraging and building networks, both formal and informal
- Reshaping organisational cultures through the introduction of family-friendly policies.

The report also examined gender strategies in leading scientific organizations to identify best practices. For example, in the European Union (EU), a combination of building the evidence base of empirical data and the use of technical language *alongside* strategic and concerted efforts by feminist activists has led to significant policy achievements. This success is embodied in *Horizon 2020*, the EU's largest-ever research and innovation programme, with funding totalling 80bn Euros. An example of the programme's gender-forward features is that gender balance in research teams is now a ranking factor in the proposal evaluation process for major *Horizon 2020* grants.

The report concludes that it is not enough to address the challenges of individual women scientists, to amend organizational policies, or to ensure that research on today's global challenges includes a gender component. Rather, efforts must be made to connect these steps to create multiple, reinforcing pathways to success. New pathways towards gender equality in global scientific endeavours and leadership need to address unequal power relations on a number of social and political dimensions at multiple scales: from the personal to the global.

The report makes a series of **recommendations** as follows:

PRIMARY CHANGE AGENTS AND DRIVING FORCES

- 1 Detail and link the many initiatives and opportunities to redirect current training and leadership initiatives to enhance women's positions in international science.
- 2 Target young scientists with initiatives that build their success.

PROGRESSIVE POLICIES AND PRACTICES ON GENDER IN SCIENCE

- 3 Collate gender-related evidence to inform international science and policy.
- 4 Ensure that gender policies exist at all levels of international science.
- 5 Constantly advocate for, and support through resources, gender equality in science.

RELATIONSHIPS BETWEEN POLICY AND BEHAVIOUR CHANGE, AND INDIVIDUAL WOMEN SCIENTISTS' PATHWAYS TO LEADERSHIP

- 6 Design gender policies for international science (not individuals or organizations).
- 7 Ensure that organizational policy highlights gender, identifies opportunities, builds awareness, recognises power relations, implements policies and builds cross-institutional global commitments to enhance gender in international science.

The full report, prepared by Linda Waldman (coordinator), Alice Abreu, Becky Faith, Tabitha Hrynich, Inés Sánchez de Madariaga and Lucilla Spini, can be downloaded from www.genderinsite.net.