

GenderInSITE

Gender in science, innovation, technology and engineering

Impact of GenderInSITE



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About GenderInSITE

Gender in science, innovation, technology and engineering (GenderInSITE) is an international initiative to promote the role of women in science, innovation, technology and engineering. Its mission is to inspire transformative actions and more effective development by understanding the impacts of SITE on women and men and how women and men can contribute to SITE.

GenderInSITE builds partnerships among its members to identify, understand, and develop strategies to apply the gender lens to SITE in six key areas: agriculture and food security; water and sanitation; energy; transportation; climate change and disaster & risk reduction; and science education & the workforce. Its aim is to demonstrate that this can provide deeper insights, more effective programmes and more sustainable outcomes in the context of development.

It engages with networks of researchers and policy-makers, organizing awareness-raising activities and using dissemination tools and resources. Currently GenderInSITE has two regional focal points: in Africa, and in Latin America & the Caribbean.

GenderInSITE is supported by a financial contribution from the Swedish International Development Cooperation Agency (Sida) to the Organization for Women in Science for the Developing World (OWSD), hosted by The World Academy of Sciences (TWAS) in Trieste, Italy. Both TWAS and OWSD are considered programme units of UNESCO.

Website: www.genderinsite.net

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Executive Summary

GenderInSITE (GIS) was conceptualized as a programmatic initiative in 2010 to promote awareness amongst decision-makers that science, innovation, technology and engineering (SITE) for development policy and programs will be more effective, equitable and sustainable when a 'gender lens' is applied. At the conclusion of the Swedish International Development Agency funding grant, this impact report has been prepared. Impact is considered under four headings: (1) Development of strategies/policies; (2) Contribution to knowledge production; (3) Contribution to capacity development; and (4) Building a reputation.

With respect to **policy development**, it is not simple to establish a causal relationship and it is difficult to judge the influence of one organization/initiative when there are multiple policy actors (attribution problem). However, influencing policy is about building a trust relationship and demonstrating engagement over a long period of time. In this respect, GIS has shown success with a variety of engagements that have promoted dialogue and learning, reframed understanding in some cases, and generally enabled GIS's advocacy role. In most cases, the influence of GIS has thus far been at a national or regional level and emphasizes the critical role of the regional focal points. Engagements have included, for example, the following organizations: the Southern African Development Community; the Organization of American States; research councils; The World Academy of Sciences (TWAS); the Organization of Economic Cooperation and Development; International Science Council; and universities.

Contribution to **knowledge production** is evidenced by the application of a gender lens to host organization reports; the publication of the Pathways to Success report which addressed women's leadership in the global science system; the gender and innovation initiative which expanded the vision of gendered innovation to the global South; the well-utilized resource materials on the GIS websites; the influence on the indicators of the UNESCO SAGA project; and the bringing of a gender lens to science journalism through a partnership with Scidev.Net.

Contribution to **capacity development** has come through awareness raising amongst science academies, young scientists, and young academies. GIS has also hosted various training workshops with young fellowship holders, female indigenous farmers and a private tech company.

One of the simplest measures of impact is simply 'who is talking about you?' In terms of **building a reputation**, evidence is presented of the reach of GIS social media activity and mentions of GIS on other websites and in scientific journal papers.

It is concluded that GIS has established a brand and a regional presence. Through strategic identification of opportunities, it has been able to leverage off existing activities of its host organizations, strengthen and expand them for greater impact and insert them into relevant global and regional policy programs and processes. The partnership with TWAS enables GIS to play a potentially larger role within TWAS, focusing not only 'numbers' of women fellows but on playing a cross-cutting, transformative role in all the thematic activities of TWAS and its regional partners. GIS's interest in policy development has also forged a closer relationship with the InterAcademy Partnership (IAP) and led to their first collaborative activity in 2019.

1. Background

The Gender Advisory Board (GAB) of the United Nations Commission on Science and Technology for Development was a founding entity of Gender in Science, Innovation, Technology and Engineering (GenderInSITE – GIS). Some of the GAB members represented the perspectives and potential of the commission to address the issue of applying a gender lens to science and technology (S&T) for development. Hence GIS was conceptualized as a programmatic initiative in 2010. While GAB was advisory, GIS became the machinery for implementation, to help incorporate gender considerations into the policy frameworks of member governments as they support science, technology and innovation (STI) research, education, and application to addressing the sustainable development goals (SDGs).

GIS has been supported through two Swedish International Development Agency (Sida) grants from 2012-2017 and May 2017-December 2020. At the conclusion of the second grant period, this impact report has been prepared to highlight the impact of GIS over this period, with the major focus on the recent period since 2017.

2. Overview of GenderInSITE

GIS is a global, multi-sectoral, multi-stakeholder initiative to promote the role of women in science, innovation, technology and engineering (SITE). It aims to promote awareness amongst decision-makers at all levels that SITE for development policy and programs will be more effective, equitable and sustainable when a 'gender lens' is applied – i.e. when they reflect the vision, aims, concerns, perspectives, knowledge and abilities of both women and men. The targets are female scientists, women and men in the developing world who can benefit from the use of improved technologies for development, and primarily decision-makers in governments, research institutions, non-government organizations (NGOs) and the media to make them aware of the gender dimensions of SITE for development. This is commonly referred to as the application of a 'gender lens'.

The GIS **vision** is that equitable and sustainable development can only be achieved if SITE are core elements of development and if both men and women are included in the effort. Only by linking gender, SITE and development will the critical sustainability challenges of our time be addressed in an effective manner.

The GIS **mission** is to support and inspire transformative actions and more effective development by understanding and communicating the impacts of SITE on women and men and how women and men can contribute to SITE, so that more policies and programs in SITE globally take account of gender issues. GIS aims to contribute to global discussions and mobilize a range of stakeholders at all levels to:

- raise the awareness of policy- and decision-makers about the gender dimensions of SITE for sustainable development;
- demonstrate how a gender analysis of SITE can lead to new and more effective strategies for fair and equitable development;
- highlight women's role in development and how it can be supported by using science and technology (S&T);
- promote the contributions to and advancement of women in SITE.

Key thematic areas in which application of the 'gender lens' to SITE have been focused are: agriculture and food security; water and sanitation; energy; transportation; climate change and disaster & risk reduction; and science education & the workforce. All these are critical development challenges and pertinent to the achievement of the SDGs.

The **niche** of GIS is unique: it is positioned at the nexus of gender, SITE and development. These elements are inextricably linked; the value proposition of GIS is to integrate all three and in so doing provide a unique contribution towards sustainable development and the fulfilment of the SDGs.

The **Gender-SITE link** addresses issues of women's access to science, technology, engineering and mathematics (STEM) education and access to the science and innovation system, as well as women's career advancement and leadership. Through consideration of the gender dimension or the application of a 'gender lens' it aims to influence policies and strategies of governments and organizations to ensure equal participation of both men and women.

The **Gender-Development link** acknowledges that men and women are affected differently by development and have different needs within development. Application of a ‘gender lens’ implies that the vision, concerns and abilities of both men and women are considered to yield more effective, equitable and longer-term successful development outcomes.

The **SITE-Development link** underscores the central role that SITE plays in finding solutions to the development challenges such as poverty, inequality, environmental degradation, food insecurity and the spread of infectious diseases. SITE is often regarded as the driver of sustainable development and is critical to the achievement of the SDGs.

Through its unique, integrative approach, GIS shows how the application of a ‘gender lens’ to SITE for development leads to equitable and sustainable development.

The overall **goal** of GIS is to increase the number of SITE policies and programs globally which take account of the gender dimension of SITE, thereby leading to the full participation of both women and men in SITE and the consideration of the differential impacts of development on men and women, thus enabling equitable and sustainable development. GIS has three strategic goals:

1. Build an effective international network of stakeholders/partners to assist in promoting the goals of GIS.
2. Increase the visibility of GIS and raise awareness amongst policy- and decision-makers about the importance of the gender dimension of SITE to sustainable development.
3. Influence SITE policies and strategies so that they reflect GIS messaging and recommendations.

3. GIS Theory of Change

The Theory of Change provides a useful framework within which to assess the impacts of GIS interventions. In the case of GIS, the following assumptions apply:

- Enhanced networking/advocacy leads to greater awareness.
- Greater awareness and engagement lead to policy change. Through opportunities to comment, discuss, participate and influence, change takes place.
- Policy change impacts positively on the gender dimension of SITE for development.

Positive impacts are assumed to include equality in the *representation* of women and men at decision-making levels and in the agenda-setting process; equality in the *access* of women and men to SITE careers and to the knowledge created by SITE research and production; and equality in the *impacts* of SITE on women and men – that is, who benefits from the products of SITE?

Given the overall goal of GIS to increase the number of SITE policies and programs globally which take account of the gender dimension of SITE, thereby leading to the full participation of both women and men in SITE and the consideration of the differential impacts of development on men and women, thus enabling equitable and sustainable development, a Theory of Change for GIS is depicted in Figure 1.

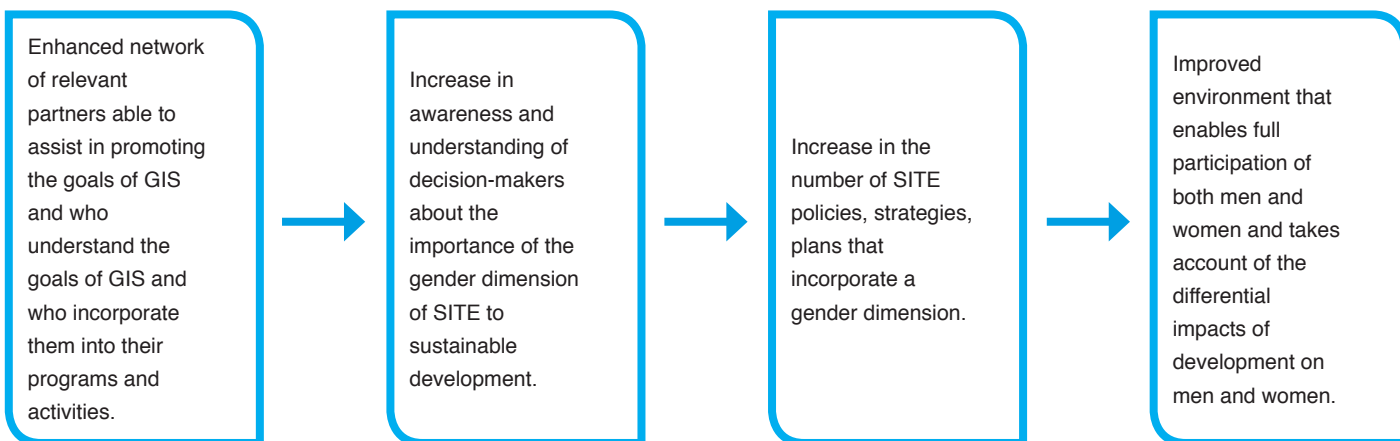


Figure 1: Theory of Change for GIS

4. Impact of GenderInSITE

The impact of GIS is inextricably linked to the reputation and credibility of its host organizations and of the people in leadership positions within GIS. At best this is a symbiotic relationship that is a win-win situation for all. Over and above the obvious benefit that GIS reaps from the established infrastructure of each of the host organizations, there are additional benefits.

For example, The World Academy of Sciences (TWAS) as the host of GIS in Trieste, demonstrates its commitment to gender equality through its support for and commitment to GIS. Similarly, GIS leverages off the TWAS reputation, as well as the TWAS network and sphere of influence to expand the reach of its work beyond that of its regional focal points in Latin America and the Caribbean (LAC) and in Africa.

The LAC regional focal point, located in FLACSO, the Latin American University of Postgraduate Studies, benefits from FLASCO's network across 16 Latin American countries, which facilitates collaboration with universities and research councils. The co-location of the United Nations Educational, Scientific and Cultural Organization (UNESCO) Regional Chair of Women in S&T, with its focus on research and training in the field of gender and education is an added advantage. The value proposition of GIS LAC is the promotion of the integration of a gender lens perspective to higher education within a sustainable development framework.

The Africa regional focal point, hosted by the Academy of Science of South Africa (ASSAf), benefits from ASSAf's credibility as a science academy and the networks that it has established across the continent, including with academia and government. The value proposition of GIS is to bring into sharper focus the importance of gender considerations in Academy membership, activities and products.

In this report, the impact of GIS will be considered under four headings:

1. Development of strategies/policies
2. Contribution to knowledge production
3. Contribution to capacity development
4. Building a reputation

4.1 Development of strategies/policies

It is not simple to demonstrate a causal relationship when it comes to policy development. Furthermore, it is difficult to judge the influence of one organization/initiative when there are multiple policy actors (attribution problem). However, influencing policy is about building a trust relationship and demonstrating engagement over a long period of time. In this respect, GIS has shown success with a variety of engagements that have promoted dialogue and learning, reframed understanding in some cases, and generally enabled GIS's advocacy role. In most cases, the influence of GIS has thus far been at a national or regional level and emphasizes the critical role of the regional focal points.

- **Engagement with the Southern African Development Community (SADC)**

The first face-to-face engagement between the GIS Africa regional focal point and the SADC secretariat took place in March 2015 at the SADC headquarters in Gaborone, Botswana. The purpose of the meeting was to communicate GIS objectives and activities and to identify areas of potential collaboration and influence. The engagement continued over the ensuing years and resulted in a workshop titled "Regional Workshop on Gender Monitoring in STI and the SADC Gender Protocol" that was hosted in Gaborone in collaboration with ASSAf, the Botswana Academy of Science and the Botswana Institute for Technology, Research and Innovation (BITRI) in April 2017. A total of 11 out of the 15 SADC member states were represented at the event by government officials.

The key outputs of the workshop were Gender in Science, Technology and Innovation (STI) factsheets for 10 countries (published in October 2019). These factsheets provide a useful comparative basis to report relevant statistics and policies on gender and science, and to showcase what each respective country is doing to promote women in STI. They are available on the GIS webpage and have been widely disseminated, including at two workshops hosted by the SADC; the first jointly hosted with the European Union (EU) and the German Corporation for International Cooperation (GIZ) on Strengthening STI Policy Implementation for Enhanced National and Regional Systems of Innovation in SADC in November 2019; and a second on

Protocol implementation and Training of Parliamentarians in December 2019.

It is still too early to judge the full impact of the factsheets, but anecdotally we can report that the comparison has highlighted data gaps and unfavourable statistics for some countries, which have caused concern among various country officials. This is regarded as a first awareness-raising step that is anticipated will lead to government action.

GIS has also played an active role in the formation of SADC Women in Science, Engineering and Technology (WISSET) national chapters. The SADC Protocol on Gender and Development calls for the formation of a WISSET chapter in each country. Engagement on this aspect goes back to 2014, initially through the Organization for Women in Science for the Developing World (OWSD) national chapter, but with GIS taking over this role more recently and pursuing active engagement. Following this engagement, GIS representatives were invited to serve on the South African WISSET National Chapter Steering Committee and to assist the South African Department of Science and Technology (DST), now known as the Department of Science and Innovation (DSI), with the compilation of the government assessment on gender in the country as required by the Department of Women. These roles are evidence of recognition by the South African government of GIS's expertise and contribution. Further acknowledgement of this role was the assistance that GIS representatives gave to Eswatini (formerly Swaziland) in the establishment of their national WISSET chapter.

The formation of national WISSET chapters was the topic of discussion at a session at the Science Forum South Africa in 2018, sponsored by GIS, ASSAf and the DST. At this high-profile event, the SADC S&T representative, Anneline Morgan, noted publicly how SADC was embracing the work of GIS at a policy level. The overall significance of this work is that it feeds directly into the policymaking community and is giving effect to the implementation of the SADC Protocol on Gender and Development.

- **Engagement with the Organization of American States (OAS)**

The LAC regional focal point has been successful in bringing a gender lens to the work of the Organization of American States (OAS), a multilateral regional organization that includes all countries in the Americas. The engagement commenced in 2014, when the focal point participated in the 4th Meeting of the Ministers of Science and was central in bringing the application of a gender lens to the discussion. Tangible evidence of GIS's influence is the provision of the text for a paragraph on gender, science and development that was signed by all Ministers present. This led to an annual follow up through COMCYT, the Inter-American Committee on Science and Technology of the OAS, to assist many member countries with specific guidance on how to structure relevant gender policies in science. In addition, the regional focal point is represented on two of COMCYT's working groups, viz. Working Group 1 on Innovation and Working Group 2 on Human Resources Training and Education, and through this involvement is engaged in advocacy and has extended its influence on policymaking.

- **Engagement with research councils**

The LAC regional focal point has established a long-term collaboration with SENACYT (National Secretariat of STI) in Panama, being involved in the development of gender-sensitive indicators on S&T and the preparation of a report on the status of women in S&T in Panama. The Panama study is part of a series of national studies compiled by the international non-profit organization, Women in Global Science and Technology (WISAT).

Similar relationships exist with other research councils in Latin America, for example CONICET (Argentina), COLCIENCIAS (Colombia) and CONICYT (National Commission for Scientific and Technological Research, Chile), where the focus is to promote the integration of gender analysis into S&T research.

Research councils are important actors in advancing women's equality in the national context and these collaborations are part of a strategic thrust of GIS to strengthen such relationships at a global level. In this respect, collaboration with the Global Research Council (GRC), was given effect through two significant engagements in 2019: the first was an invitation to GIS representative, Alice Abreu, to address the annual GRC Gender Working Group meeting in May 2019 in São Paulo; the second was an invitation from GIS to a GRC representative to participate in a session organized by GIS and UNESCO at the high-level World Science Forum meeting in Budapest in November 2019. The plan to consolidate this relationship and for Roseanne Diab to address the Gender Working Group meeting of the GRC in May 2020 in Durban was unfortunately disrupted by the COVID-19 pandemic.

- **The World Academy of Sciences (TWAS) Gender Advisory Panel**

Individuals affiliated with GIS have participated in the TWAS Gender Advisory Panel (GAP) since its inception in 2009, assisting TWAS to fulfill its mission to promote gender equality and equity in its membership, programming, grants and prizes by providing recommendations of best practices. Formal involvement of GIS as a representative on GAP commenced in 2015, when the Terms of Reference of the panel changed to include a GIS representative. It is noteworthy that Roseanne Diab co-chaired the GAP from 2015 to 2018.

One of the achievements of the GAP was to secure a slot on the agenda of the TWAS General Meeting (2016 and 2018), where they could report on gender-disaggregated statistics and trends. The 2018 report noted that TWAS had made some important improvements in respect of women's participation over the past five years. However, it was noted that there was a need for policy changes to ensure that the low proportion of female Fellows did not become a permanent feature. Specific recommendations were (1) that there needed to be improved networking and capacity development initiatives for women scientists; and (2) there needed to be improved communication with national science academies to encourage them to nominate and elect women.

In this respect GIS, together with TWAS, has been driving an initiative to hold a networking event for women and the TWAS leadership at the General Meeting; and secondly, to address the pool of women candidates for nomination as TWAS Fellows by working closely with the TWAS regional partners.

- **Organization of Economic Cooperation and Development (OECD) precarity project**

GIS can be credited with raising the prominence of the gender dimension of the precarity of young researchers. Through engagement of Roseanne Diab with the Organization of Economic Cooperation and Development (OECD) and awareness raising on the work of GIS, she was invited to co-chair the expert group on Reducing the Precarity of Researchers' Careers and gave a presentation on Gender and Intersectionality Dimensions of Academic Precarity at a meeting of the Global Science Forum in October 2019. She continues to advocate, on behalf of GIS, for the inclusion of the gender dimension.

The final report is due in 2021, and it is likely to include a section on gender and precarity. Given the extensive reach and credibility of OECD reports and the broad country participation in the expert group, this is considered a noteworthy achievement.

- **Ministry of Health and Social Protection, Colombia**

The LAC regional focal point produced a report on mainstreaming gender in health policies, including health-related research work, at the request of the Ministry of Health and Social Protection in Colombia. The significance of this report is that it indicates that GIS's influence and reputation extends beyond S&T ministries in the region.

- **International Science Council (ISC)**

Soon after the initiation of GIS, there were conversations with the International Science Council (ISC) (then ICSU) about the gender dimension of the SDGs. The partnership with the ISC has strengthened over time; an ISC representative serves on the GIS Steering Committee; and GIS is mentioned specifically in the recent ISC Action Plan 2019-2021 "Advancing Science as a Global Public Good" as a partner in the planned project on gender equality in science. In addition, the ISC, IAP and GIS are currently partnering in a GIS-led project investigating women's participation in science academies and ISC unions (see below).

- **Universities**

The LAC regional focal point has played a significant role in reinforcing gender equality at universities in the region, giving advice on the development of gender equality policies. Gloria Bonder chairs a community of practices consisting of representatives from 13 LAC universities that addresses these issues. In addition, they have advised the School of Engineering at the University of Buenos Aires on how to incorporate a gender dimension into their curriculum.

- **Appointments to influential boards**

One of the ways in which GIS influences policy is through its leadership and their appointment to significant boards and committees tasked with policymaking. Examples are the appointment of Shirley Malcom, Alice

Abreu and Gloria Bonder to the Advisory Committee of UNESCO's STEM and Gender Advancement (SAGA) project; the appointment of Gloria Bonder to the Advisory Board of the recently created Ministry of Women, Gender and Diversity in Argentina to advise on gender issues in STI policies; the appointment of Gloria Bonder to the Advisory Board of the "United Nations Broadband Commission for Sustainable Development"; and the appointment of Roseanne Diab to the African Union high-level panel on Emerging Technologies. It is noteworthy that in each of the examples cited there is potential to influence policy.

Included under this heading as a significant achievement is the invitation to Alice Abreu in her capacity as former GIS Director to address the UN STI Forum in New York in 2019. This is the first time that gender featured in this meeting.

4.2 Contribution to knowledge production

- **Application of a gender lens to Academy reports**

The GIS Africa Regional Focal Point was instrumental in ensuring the incorporation of a gender lens in a 2018 report of ASSAf titled "Status of Postgraduate Research Training in Engineering in South Africa". The report included a chapter on women's representation and underscored the male dominance in the field. The report, which aimed to influence government policy was submitted to the national DST, and included a recommendation calling for active interventions to increase the numbers of women enrolling and graduating in engineering fields. It is still too early at this point to determine whether this recommendation has been implemented, but the report was brought to the attention of the Minister.

- **Pathways to Success report**

The Pathways to Success report, which addresses women's leadership in the global science system, was published in late-2018 and formally launched in Paris on 11 March 2019. This was followed by a regional launch at the Global Forum on Women in Scientific Research (GoFoWiSeR) event in Dakar, Senegal in July 2019. The Spanish version of the report was launched at a dedicated Conference on Gender & STI, hosted by the LAC regional focal point, in Buenos Aires in November 2019. The findings and recommendations of the report have also featured in a number of presentations at key events, for example, the 63rd Session of the UN Commission on the Status of Women in New York in March 2019, the annual GRC meeting in Sao Paulo, Brazil in May 2019, two events of the Brazilian Chemical Society in May 2019, a seminar at the Federal University of Rio de Janeiro, the Gender Summit in Singapore in August 2019, the World Science Forum (WSF) in Budapest in November 2019, a Mutual Learning Workshop on Gender in International Cooperation in STI in Malta in November 2019, and a session at the American Association for the Advancement of Science (AAAS) annual meeting in February 2020.

In terms of impact, the report has had broad exposure reaching influential people (e.g. Director of Research Finances, Ministry of Higher Education and Research in Senegal), as well as influential organizations and events (e.g. UN, WSF and Gender Summit). The report was uploaded to the ASSAf repository, which allows for accurate tracking of report views and downloads. As of October 2020, there were 1805 downloads. The Pathways to Success policy brief, completed during 2019, has recorded 1987 downloads and has also been widely disseminated in print format at many events.

The World Federation of Engineering Organizations (WFEO), which is committed to advancing the UN SDGs through engineering, makes explicit reference to the Pathways report when documenting their commitment to SDG 5 on Gender Equality.

- **Gender and innovation in the global South**

A noteworthy achievement of the Africa regional focal point was the September 2017 workshop on Gender and Innovation. The proceedings report was published in 2018 and as of October 2020 has recorded 346 downloads. A policy brief on the same topic has recently been completed. A video featuring gendered innovation case studies in Africa has also been produced and uploaded to the GIS website.

It is still early to assess the impact of this work, but certainly, the need to expand the vision to the global South and the need to incorporate gendered innovation case studies from the global South can be attributed to GIS and was favourably received by keynote speaker, Londa Schiebinger of Stanford University, who launched the gendered innovations website.

Soon after the Gender and Innovation workshop, the significance of the event was highlighted by Minister Naledi Pandor, Minister of S&T in South Africa, in an address she gave at a Transformative Innovation Policy Consortium (TIPC) conference in Pretoria. Minister Pandor urged the TIPC to “adopt a stronger gender lens in [its] analytical and conceptual work”. She further referred to the “groundbreaking 3-day global GenderInSITE workshop on gender and innovation in the context of the Sustainable Development Goals.” She remarked that “GenderInSITE is a global initiative in gender, science, innovation, technology and engineering. The interface between gender and innovation has not received adequate attention in the past and this will need to be corrected across-the-board.” “It’s vital to accept as a starting point that transformative change is likely to have variable impacts on men and women. Previous framings of innovation policy, including that of a national innovation system, have not paid adequate attention to gender. Transformative innovation for socio-technical change needs to look at how to reverse this shortcoming. This includes a commitment to the generation of gender-disaggregated data sets as a standard practice.” Participants at the conference were drawn from 19 different countries across the globe.

Spin-offs from this activity are closer collaboration between GIS and the Technology Innovation Agency (TIA) of South Africa, thereby enhancing the need to apply a gender lens to TIA’s work; and the invitation to Roseanne Diab to serve on the Advisory Board, as Africa’s representative, of an EU-funded research project, with Londa Schiebinger as Principal Investigator, on “Ranking Sex and Gender Analysis Policies of Major Granting Agencies”.

- **Gender Gap in Science project**

GIS participated as a full partner and served on the Steering Committee of the ISC-funded project on the Gender Gap in Science project, which aimed to measure the gender gap in mathematical, computing and natural sciences and provide recommendations on how to reduce it. Although GIS is not responsible for any impact that the final report may have, an important outcome of this collaboration is an invitation to serve as a founding member of the Standing Committee for Gender Equality in STEM that has been constituted and the establishment of a meaningful collaboration between GIS and ISC-unions that will extend into the future.

- **Resource hub**

The GIS website features many valuable resources, for example a booklet of fact sheets presenting an overview of the gender dimensions in six thematic areas: climate change; agriculture and food security; water and sanitation; energy; transportation; and education and the workforce. Its value is recognized through the many references made by external organizations to the website as a resource.

The GIS LAC regional focal point has developed a reputation as a valuable resource or knowledge hub that is regularly consulted by researchers and universities on integrating gender perspectives into STI. Evidence of this function is provided by GIS website traffic (in 2019, the website recorded over 6 400 visits from 39 countries). As one of the few Spanish language websites on gender and science, the GIS LAC website has become the benchmark and ‘go to’ site for current information on regional and international gender and science matters. In addition, numerous requests for advice from researchers at, for example, the University of Buenos Aires, University of Rio Negro, University of Rosario, University of Uruguay, University of Chile, University of Peru, University of Costa Rica, University of Mexico, among others, are directed to the regional focal point.

- **InterAcademy Partnership (IAP) collaboration**

GIS is spearheading a project in collaboration with the InterAcademy Partnership (IAP) aimed at investigating women’s participation in IAP-academies, which is a follow-up to a previous survey, the results of which were published in a report by ASSAf in 2016. Significantly, this project will build on our knowledge and understanding of women’s participation and gender equality in academies so as to identify best practices that advance the status of women and thereby enable academies, as the apex organizations in the science system, to play a leadership and gender-transformative role in society.

The study is being conducted in collaboration with the ISC and has also included ISC academies and unions in the list of organizations surveyed. It is envisaged as part of a larger project that will ultimately include other partners as well. The significance of this collaboration is that it is GIS-led, gives recognition to GIS and involves a partnership with two highly respected global science bodies that look to GIS to assist with the implementation of their gender-related initiatives.

- **STEM and Gender Advancement (SAGA) project: Improving Measurements and Policies for Gender Equality in STI**

UNESCO's SAGA project, a global project launched in 2015 and supported until November 2018 by Sida, had as its main objective to offer governments and policymakers a variety of tools to help reduce the global gender gap in STI fields at all levels of education and research. One of the project goals was to identify and design relevant indicators to improve gender-related instruments and sex-disaggregated data in STI. The SAGA high-level coordination team was assisted by a large Advisory Committee (AC) with representatives of the most relevant organizations and institutions that had gender and science as their main foci.

GIS has a strong presence in the SAGA AC, with three GIS members (Shirley Malcom, Alice Abreu and Gloria Bonder) serving on the committee since its inception. Their contributions, which were influenced by their GIS affiliation, helped to shape the nature of the indicators and introduced several new ones. Given that the SAGA methodology has been downloaded from their website over 10 000 times, this is a significant influence.

Evidence of this influence is captured by Anthea Brooks, then senior gender focal point for the Natural Sciences Sector of UNESCO, as follows:

"... my knowledge and respect for the work of GenderInSITE and its team members made Shirley Malcom and Alice Abreu obvious first choices for the SAGA AC, while Gloria Bonder was the most active of the UNESCO Chairs working on the subject."

"Alice, Shirley and Gloria provided the most pertinent, thought-provoking comments, which were especially appreciated. Specific members of the AC, including Shirley and Alice, also provided text on the seven gender objectives for Working Paper 5. As stated on pages 68-69 of Working Paper 5:

'3.1. The importance of the SAGA STI Gender Objectives List as an analytical tool

... The SAGA STI GOL (SAGA Working Paper 1) provides a succinct yet holistic and multi-pronged approach and conceptual framework of the full suite of entry points. It is the product of an analytical and conceptual clustering of STI gender-related policies and instruments. Each objective seeks to answer the question, what drives the gender gap in STI?'

This conceptual framework for the SAGA project, along with the other tools and survey questionnaires, have proven their value in many contexts ranging from country studies—which have led to new legislation to support female scientists in several SAGA pilot countries—to educational and scientific union research on gender equality in STEM fields, and the SAGA project now is considered by the World Economic Forum and the United Nations to be a useful tool to collect relevant data and to improve policies in support of women in STEM."

- **Engagement with the Science Policy Research Unit (SPRU), Sussex University**

Upon the recommendation of Sophia Huyer (then GIS Director) and the late Geoff Oldham (member of the GIS Steering Committee), one of GIS's early engagements was with the Science Policy Research Unit (SPRU) at Sussex University in March 2015. SPRU, one of the world's leading centres of research on STI policy, partnered with GIS to hold a workshop on "Exploring the Knowledge and Innovation Policy Interface and its Gender Dimension". Anecdotally, it is reported by GIS participants (Shirley Malcom and Alice Abreu) that the SPRU leadership was initially skeptical and that GIS can be credited with persuading them that the gender dimension was important in STI. The reframing of their knowledge was a critical contribution by GIS. As captured in a graphical summary of the outcomes of the workshop, it was clear that their approach had shifted from 'fixing the women' to "fixing the system". In a quotation on their website it is stated "Gender equality in contemporary research institutions needs a new knowledge infrastructure supported by/operating within a strong institutional infrastructure". Given SPRU's global reputation, this recognition of the importance of the gender dimension, is a significant achievement for GIS, and an example of 'influencing the influencers'.

- **Bringing a gender lens to science journalism: Scidev.Net**

Another early success story of GIS impact was its interaction with Scidev.Net. GIS and Scidev.Net hosted a training workshop in November 2014 for editorial staff from eight regions across the world, drawing attention to the gender dimension of science and thus shaping the nature of their science reporting henceforth. The significance of this workshop is evidenced through the publication in 2015 of a Scidev.Net practical guide giving five tips on how to report on science in a gender sensitive way; the re-publication of the guide in a number of media outlets, including allafrika.com and sharing nearly 500 times on social media; the publication of two thoughtful opinion pieces in March 2015, acknowledging that these conversations on gender began

with the GIS workshop and making reference to the GIS website as a useful resource for applying a gender lens to science and development topics; and SciDev.Net’s development of a free on-line course “Integrating gender into your research”. Furthermore, at the Gender Summit in 2016, the training coordinator of Scidev.Net referred to the training workshop presented by GIS. Given the extensive reach and reputation of Scidev.Net across countries in the developing world, this contribution by GIS to science journalism and also ‘influencing the influencers’ is substantial.

4.3 Contribution to capacity development

- **Awareness raising**

Although GIS’s ultimate goal is to influence policies and strategies of governments and institutions, an important component of this is creation of awareness and the promotion of dialogue and learning. There have been numerous instances where GIS, through strategic partnerships, has engaged in advocacy and even reframed understanding.

Examples of these engagements are as follows:

Science academies – The Africa regional focal point of GIS began an initiative in 2015 to host and sponsor a gender panel at the Annual Meeting of African Science Academies (AMASA). By 2018, this event was successfully mainstreamed into AMASA 2018, which was held in Benin, without the need for GIS sponsorship or intervention. The gender session has been sustained at each subsequent meeting and is evidence of the impact of GIS.

Young scientists – GIS has partnered with ASSAf, each year since 2015 to host a session promoting the gender dimension of research at the annual young scientists’ conference in South Africa. Based on an average attendance of 100 participants per year, the reach has been over 500 and importantly, has served to raise awareness of the gender dimension in a wide variety of research fields. The gender session has now become a permanent feature of these meetings and has also extended to young scientist conferences sponsored by the TWAS regional partner in sub-Saharan Africa. Awareness raising among young scientists is particularly important to change the direction of future research and to build an inclusive culture.

Gender Summits – the Gender Summit is considered a key strategic partner and GIS has had visibility at these meetings, both as a sponsor and as a participant/speaker. The purpose is to link with like-minded partners to raise awareness about the value of incorporating a gender dimension in SITE policies and strategies. Evidence of GIS’s influence was the keynote address of the Minister of Science and Technology of South Africa (Ms Naledi Pandor) at the Gender Summit in Cape Town in 2015, when she mentioned the hosting of the GIS regional focal point as an example of South Africa’s gender achievements.

Young academies – GIS has contributed to gender awareness within young academies by initiating and sponsoring a session on gender equity at the Third Worldwide Meeting of National Young Academies that was held in Johannesburg in 2017. Since then, young academies have become formidable champions of gender considerations.

- **AWARD/GenderInSITE/NRF/OWSD training workshop**

In December 2017, the Africa regional focal point of GIS collaborated with African Women in Agricultural Research and Development (AWARD), the South African National Research Foundation (NRF) and the OWSD National Chapter to host a training workshop for 10 AWARD and 10 OWSD fellowship holders in agriculture and related fields. It was the first such partnership for GIS and served to promote the application of the gender lens in agricultural research, raise awareness among young fellowship holders and to provide a platform for GIS to be invited to participate in and contribute to an AWARD-hosted event in Senegal in 2019, where GIS messaging could be promoted and the Pathways publication launched.

- **STEM education**

The LAC regional focal point has established a significant reputation in the field of gender-sensitive STEM education and through GIS has brought a gender lens to this work in the LAC region. They have also implemented a program named TeachHer, which is an online mentoring and training program to mainstream gender equality in STEAM teaching. To date it has reached 35 teachers drawn from eight Central American countries. Another project, Chicas en tecnología, has targeted Girls in Technology and

again has provided training and support to mainstream a gender perspective into technology projects. The regional focal point also coordinates the gender-based STEM Educators Network, which comprises over 80 members from eight Central American countries.

The GIS Africa regional focal point, together with other partners such as the IAP, was instrumental in raising the issue of gender in science education at a workshop hosted by the Network of African Science Academies (NASAC), which culminated in the publication of a report titled “Mainstreaming Gender in Science Education”, published in 2015. The report included many recommendations on how to increase the participation of girls in science.

- **Namum Village project**

The Latin American regional focal point has developed a digital literacy training program for female indigenous farmers in rural areas in northern Argentina. In the second phase of the program, 25 mentors were trained, who in turn trained 300 indigenous women. Through this project, and in partnership with a territory-based NGO, Fundación Gran Chaco, and technology company, Samsung, access to and training in the use of the Internet will contribute to the empowerment of female farmers and artisans in the area and thereby promote economic development.

- **Capgemini, private tech company**

The LAC regional focal point organized a training workshop in 2019 for employees of a private tech company, Capgemini in Buenos Aires, to raise awareness, to provide guidelines to overcome gender stereotypes and biases in tech work and on strategies to integrate gender considerations into technological production. While 50 local employees were trained, the real impact of this activity was that it represented GIS’s first engagement with the private sector; it resulted in the development of a methodological tool that can be implemented in other tech companies in the future; and since Capgemini is a leading IT multinational corporation with a presence in over 50 countries, this workshop can be used as a model that can be easily replicated in other countries and in other tech companies.

4.4 Building a reputation

One of the simplest measures of impact is simply ‘who is talking about you?’. In this respect, besides for the mentions given above, GIS has a presence on the website of many of its partners, for example, UNESCO, TWAS, OWSD, ISC, Elsevier Foundation, Gender Summit and RuForum. GIS is listed on the EU’s GENport website; and the GIS website is listed as a resource on science advice in a research call, COVID-19 Africa Grant Fund, disseminated by the South African National Research Foundation (NRF).

In an editorial leader of the *South African Journal of Science* (SAJS) in 2015, GIS’s role in promoting the gender analysis of S&T and in promoting leadership of women in SITE was mentioned. In 2016, a commentary in the SAJS by distinguished retired judge of the Constitutional Court of South Africa, Judge Zak Yacoob, on a workshop on Human Rights, co-hosted by GIS, referred to a highlight of the event as the GIS session on “Transformation towards sex and gender equality in Africa: Where are we?”. Furthermore, GIS is acknowledged for having contributed to a report to the UN Secretary-General on Indicators and a Monitoring Framework for the SDGs.

The GIS Twitter account @GenderInSITE now has nearly 1 200 followers as at October 2020, including academies of science, academic networks, science media centres, research councils, scientific publishers and other women in STEM groups. The number of followers has grown steadily since 2017 as illustrated in Figure 2. Some of the most impactful tweets have related to the Pathways to Success report. In August 2019, for example, a thread of tweets sharing the seven report recommendations recorded a total of 7 273 impressions, 50 engagements (e.g. clicks to the website), and 18 retweets.

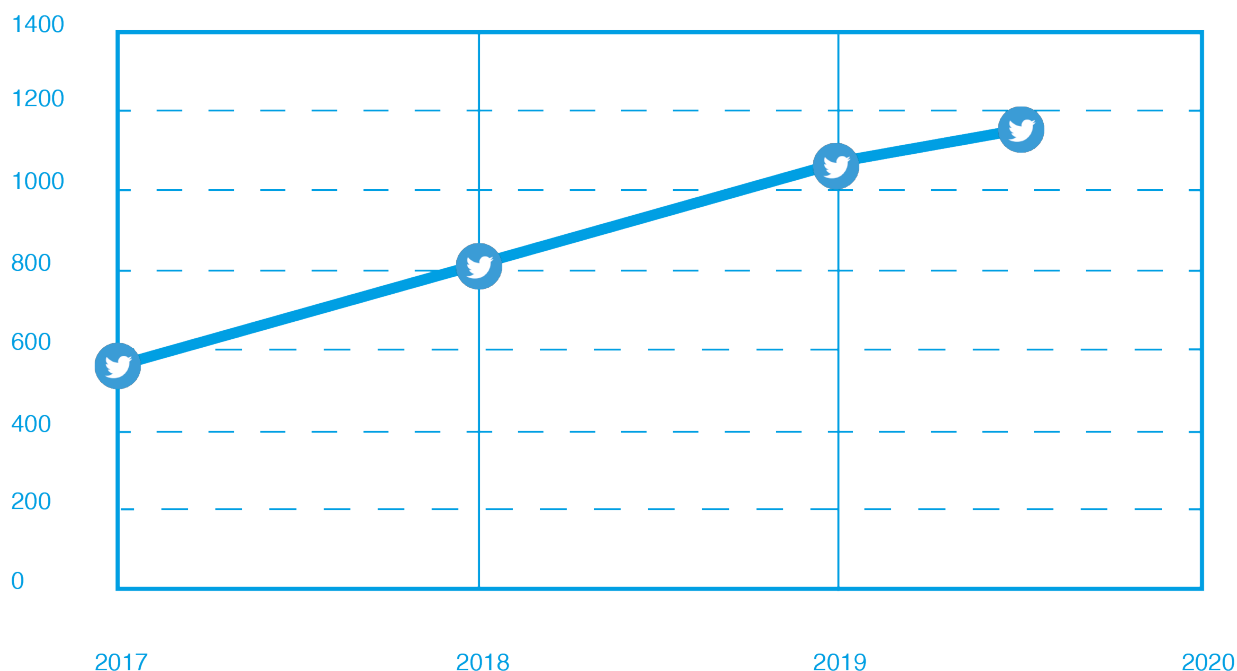


Figure 2: Growth in the number of GIS Twitter followers

5. Summary and conclusion

GIS has established a brand and a regional presence. Through strategic identification of opportunities, it has been able to leverage off existing activities of its host organizations, strengthen and expand them for greater impact and insert them into relevant global and regional policy programs and processes.

In the early stages, GIS was positioned as a programmatic initiative of OWSD. This was not an ideal arrangement as there was much confusion amongst external stakeholders as to what distinguished GIS from OWSD. In 2019, this reporting structure was changed so that GIS became a programmatic arm of TWAS. The effect was clarification of the predominantly capacity development role of OWSD, which was focused on female graduate students and early career women, compared with the advocacy role of GIS that was centered on policy development. Specifically, GIS promoted the application of a 'gender lens' in SITE that incorporated perspectives of both men and women.

The partnership with TWAS has enabled GIS to play a potentially larger role within TWAS, focusing not only 'numbers' of women but on playing a cross-cutting, transformative role in all the thematic activities of TWAS and its regional partners. GIS's interest in policy development has also forged a closer relationship with the IAP and led to their first collaborative activity in 2019. This foundation bodes well for future joint activities and a more influential role for GIS.



GenderInSITE

Gender in science, innovation, technology and engineering

www.genderinsite.net

Academy of Science of South Africa (ASSAf)

ASSAf Research Repository

<http://research.assaf.org.za/>

A. Academy of Science of South Africa (ASSAf) Publications

B. ASSAf Workshop Proceedings and Other Reports

2020

Impact of GenderInSITE

Diab, Roseanne

Organization for Women in Science for the Developing World (OWSD); The World Academy of Sciences (TWAS)

<http://hdl.handle.net/20.500.11911/172>

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