



## U.S. Department of State

### An Evaluation of the Women in Science (WiSci) Girls STEAM Camp Public-Private Partnership

Completed on November 30, 2018

# About This Report

Beginning in August of 2018, the Office of Global Partnerships at the U.S. Department of State commissioned Deloitte Consulting LLC to conduct a mixed-methods evaluation of the Women in Science public-private partnership. This report presents the results of the evaluation.



# Executive Summary

Supported by the Office of Global Partnerships at the United States Department of State, the “Women in Science” public-private partnership conducted a mixed-methods evaluation of its programming and partnership model. The evaluation focused on two main objectives to 1) assess the impact of the programming on participants from three, “Science, Technology, Engineering, Arts and Mathematics” (STEAM) camps in Rwanda, Malawi and Namibia; and 2) explore the experiences of partner organizations with an emphasis on private sector partners to determine why partners participate in WiSci, and what might be required to strengthen the partnership as WiSci considers expansion.

Approximately 300 girls participated in the three sub-Saharan Africa, WiSci camps. Participants consisted of girls between the ages of 15 and 18 from the United States and locations including Rwanda, Liberia, Kenya, Ethiopia, Uganda, Tanzania, Malawi, South Africa, eSwatini, and Namibia. To determine, how and whether the programming was impactful for participants, a sample of 103 girls was surveyed using an online survey tool. The survey focused on gathering perspectives from girls on how the camps improved STEAM knowledge and skills, and their individual leadership skills; how girls applied new skills and learning in their communities; what participants are studying at university (if applicable); and how and whether girls maintain communications with fellow campers. To augment the quantitative survey data, 25 individual, semi-structured interviews were conducted with various girls from across the three camps.

The findings revealed positive outcomes across all camps and years. The majority of respondents expressed improvement across all STEAM curriculum focus areas, while “great improvements” were realized for girls in computer coding (72%), computer programming (67%), computer software (57%), and computer hardware (51%). In addition, to growth in STEAM skills, 92% of girls expressed improved knowledge of STEAM careers and career pathways, while 89% indicated improvement in knowledge and strategies of gender empowerment. Girls expressed unilateral growth in soft skills with 99% reporting increased empathy, 94% feeling greater self-confidence, and 90% reporting improvements in problem solving skills as a result of participating in the camp.

All respondents (100%) agreed that participating in the camp led to them motivate others to be more active in their communities with 89% expressing that they actively work in their communities to empower other young women. Girls explained that the experience in many ways transformed their view of the world. The cultural exchange and opportunity to interact with girls from other countries, learn about who they are and where they come from, was cited as an extremely impactful experience. Nearly all respondents reported maintaining connections and communications with fellow campers (94%) mainly through social media and instant messaging applications. Of the respondents, 40 of 103 (39%) are currently pursuing tertiary education. 31 of the 40 (78%) are focused on degrees in STEAM subjects.

Since inception, WiSci leveraged various stakeholders and multisectoral partners to establish, develop and deliver its camps. As the partnership considers expansion, partner organization' perspectives and experiences were captured to reveal opportunities to strengthen the partnership and programming moving forward. 13, in-depth, individual interviews were conducted with partner representatives to document organizational experiences with WiSci; identify partner organization motivations for historical and current-day involvement in WiSci; understand how partners measure return on investment; and outline the potential barriers to scale partner contributions and involvement.

Across these focus areas, partners expressed that motivations for participation were consistent with organizational and business objectives highlighting the role of WiSci in furthering their presence and brand in African markets. Private sector partners explained that they derive value from partnering with the Department of State to establish relationships and networks in new, desirable markets, and that they see WiSci as a meaningful outlet for employee engagement. Partners maintain that WiSci functions because of the trust and established relationships which is a main driver of continued participation, while they see opportunities to improve communications and extend collaboration outside of the actual camp.

Historically, individual partners are responsible for the development and delivery for specific content during the camps. Partners that contribute financially to the partnership have been given priority for the amount of time to deliver their content, and provided complete autonomy over the content and curriculum. Some partners perceive a tension between this model and the outcomes and goals of the programming, suggesting that prioritizing funders over other content and partners may impact the outcomes for girls and the types of programming that occurs during the camps. This factor is important to consider as the programming and partnership looks to expand in terms of how to ensure financial sustainability and partner involvement without watering down program outcomes.

When asked to consider factors that promote or prohibit current and long-term involvement, partners highlighted the time commitment required to support WiSci. Private sector stakeholders in particular explained that it is a significant commitment and often one that they are not rewarded for within their firms. They explained that this often places challenges on them internally in the lead up to the camps, and at times has prevented them from revamping their approach and curriculum. This demonstrates the commitment that individuals gain from participating in WiSci, and also presents a potential longer term threat to the programming if and when staff turnover occurs.

Furthermore, partners explained that if and when WiSci looks to expand, changes in leadership could impact their ability to maintain their involvement. Leadership buy-in supports staff engagement in WiSci, and was cited as an important factor for any additional expansion of firm investment if and when WiSci looks to scale. Relatedly, to support scaling, partners cited two key elements that can help make the case for continued involvement including consistency in alignment to outcomes they seek, specifically that WiSci is generating interest and encouraging young women to pursue STEAM and related fields, and documented evidence that the WiSci programming is meeting and achieving its desired objectives. Partners explain that these factors help demonstrate the importance of their commitment, however when asked about their appetite for scaling their investments, responses were mixed.

Based on these collective findings, the evaluation yielded a concrete set of recommendations to inform the development and design of WiSci programming. These recommendations include:

- **Develop a long-term strategy, and refine the mission and goals of WiSci.** As the partnership looks toward scaling, drilling into the theory of change, vision and mission for WiSci is important as it considers recruiting new partners.
- **Define the core beneficiaries of the WiSci camps.** Within the strategy, partners should clarify who WiSci is for, and how to ensure the intake and recruitment process engages desired beneficiaries.
- **Update the curriculum and content based on revised strategy.** WiSci curriculum is defined by partners and seems disjointed. Utilize the revised strategy to clarify the objectives for programming and ensure that partner content aligns to desired outcomes.
- **Establish a pedagogical approach to delivery.** Consider developing a pedagogical approach for how the content is delivered in the various sessions to ensure participants are getting the right experience to match the updated content and curriculum.
- **Devise a structured approach to alumnae engagement.** Past WiSci participants are the greatest asset for future development of the program. Develop a strategy to improve and ensure connections with alumnae are maintained beyond the camps.
- **Increase in-person interactions and partner touchpoints.** Partners participate in WiSci because of the trust achieved with individual partners and opportunity to continue to engage. In-person interactions only occur during the actual camps. Consider how to build further opportunities for meaningful, in-person interactions.

The evaluation provided additional insights for WiSci partners to consider as the partnership looks to expand and grow the WiSci programming. These recommendations focused on how to cultivate new partnerships and include:

- **Move from reactionary to strategic in recruitment and engagement of funding partners.** Leverage and market the impact the programming has on its participants in the recruitment of new partners. Move toward an intentional, strategic model where partners are not “paying for face-time” and, be clear in recruitment of new partners what their engagement in curriculum and content looks like.
- **When targeting new partners, consider where staff and leadership sit within the firm’s structure.** Relationships with WiSci proved to be critical to the establishment and success of WiSci. CSR activities within firms (i.e. Google v. Intel) influence contributions and the role that business can play in partnership. Consider where people sit within the company as WiSci aims to recruit and build new partnerships.
- **Leverage the brand of WiSci and its partner networks to gain new, diverse partners.** Use the network and success of WiSci to invite leaders to the table to support and participate. Make it easy for them to engage and clearly articulate the value and what they gain through their participation.
- **Build a replicable model for scaling.** The cost of scaling WiSci grows when additional settings and partners are integrated. Consider a model that benefits from economies of scale that can be replicable across different environments, or consider continuing to focus on the same locations.
- **Funding considerations.** Girls are the greatest asset to WiSci. The transformational experience that occurs traveling to the camps and engaging with girls from other countries is vital to the impact and story of WiSci. Utilize this in telling the story of impact and imbed into costs of camp as oppose to viewing traveling and logistics as “overhead”. Consider directly marketing WiSci to new partners based on a cost per pupil model.
- **Market outcomes for companies and new partners.** Tech firms compete for talent. Employee engagement and talent retention can be leveraged to market WiSci to new partners. Millennials in particular want to work at companies that make an impact. Further, girls who participate get their first exposure to tech firms through this model. Consider how to tell the story to prospective partners by making the business case of why WiSci is important for them to invest.

# Table of Contents

Introduction	4
Overview of the WiSci Intervention and Evaluation	5
Why Gender Matters in STEAM	7
Leveraging Public-Private Partnerships	9
Objective 1 – Method and Findings	13
Objective 2 – Method and Findings	18
Discussion and Recommendations	29
Conclusion	35

# Introduction

The specifications outlined in the Office of Global Partnerships (GP) task order, as well as the various programme reports and documentation related to the 2015, 2017 and 2018 Women in Science (WiSci) “Science, Technology, Engineering, Art, and Mathematics” (STEAM) camps, guides the evaluation design presented in this proposal. This evaluation focuses on the outcomes of the 2015 inaugural camp in Rwanda and the two subsequent camps in Malawi (2017) and Namibia (2018).

This evaluation addresses two objectives of the evaluation:

1. Participant impact
2. Partner motivation and strategic value derived from WiSci partnership

From inception, WiSci launched and delivered five (5) camps internationally. This evaluation focuses only on the camps in sub-Saharan Africa including Rwanda, Malawi and Namibia.





# A Conceptual Model for Evaluating WiSci



# Overview of the WiSci Intervention and Evaluation



## WiSci STEAM Camps

The Women in Science (WiSci) Girls STEAM Camp is a public-private partnership designed to encourage adolescent girls to increase their exposure, obtain skills, and motivate girls in the STEAM fields. Through experiential learning and access to tech resources, cross-cultural peer interaction, industry connections and hearing from inspiring female mentors, WiSci seeks to empower young women with the knowledge and skills during a time of rapid, technological development, helping them to imagine themselves in STEAM careers. To achieve its program objectives, WiSci uses a camp model during the participants' school vacation/holiday period.

The camp runs for approximately two weeks. During the WiSci camp, the core curriculum aims to cultivate analytical problem-solving skills, creative and critical thinking, and immersion in cultural exchange. Each camp embeds similar curriculum components, specifically content focused on a wide range of STEAM-related studies such as computer science, robotics, natural sciences, engineering, and art and design. The camp also includes skills training, leadership, and entrepreneurship components with the expectation that the girls use these skills to address issues in their communities.

<b>Who</b>	<ul style="list-style-type: none"><li>• Girls from sub-Saharan Africa, South America, eastern Europe and the United States</li><li>• Ages 14 - 18</li></ul>
<b>What</b>	<ul style="list-style-type: none"><li>• Two to three-week camp</li><li>• Increase exposure to STEAM content and related fields</li><li>• Encourage leadership, entrepreneurship</li><li>• Cultural exchange</li><li>• Mentoring by female leaders in STEAM fields and expanded network</li></ul>
<b>Where</b>	<ul style="list-style-type: none"><li>• Africa and other various international locations</li></ul>
<b>When</b>	<ul style="list-style-type: none"><li>• Typically during the US summer vacation and African winter holiday</li></ul>
<b>Why</b>	<ul style="list-style-type: none"><li>• Gender empowerment</li><li>• Knowledge and skill development to pursue STEAM careers</li><li>• Capacity building for girls' local communities</li></ul>
<b>How</b>	<ul style="list-style-type: none"><li>• Participant selection – open call application process with local and regional outreach</li><li>• No participant fees; fully funded by public and private sectors</li></ul>

## Purpose of the Evaluation

According to the Council on Foreign Relations, women hold less than 30 percent of jobs in STEAM, which encompasses the fastest-growing and highest-paying professional fields, particularly in low-and-middle income economies. WiSci seeks to address this challenge by establishing a public-private partnership in order to enable and empower adolescent girls through tailored mentoring programs focused on improving their skills, employability, and earning potential in associated industries.

With the program now in its fifth year, the Department, its partners and key stakeholders are interested in ascertaining its effectiveness by answering a number of key questions related to impact and program evaluation.

This evaluation focuses on the outcomes of the 2015 inaugural camp in Rwanda and two subsequent camps in Malawi (2017) and Namibia (2018).

## Objective 1: Outcomes for WiSci Participants

**How did participation in the camp empower adolescent girls from Africa and the United States and equip them with skills and knowledge to pursue careers in STEAM fields?**

- What skills did the girls receive at the camp?
- What are the girls' majors, if at university?
- How have the girls been using their leadership skills?
- What impact did the camp have on their engagement in their communities?
- How did the girls stay in touch with their fellow campers?

## Objective 2: Partner Motivation and Involvement

**What is required to implement successful international WiSci camps to meet program and partner goals, and strengthen the public-private partnerships?**

- What are the primary reasons that partners participate in the WiSci program and partnership?
- How do the goals of WiSci support the individual goals of partners?
- What internal and external factors promote and prohibit partner organizations from participating in WiSci?
- How do partners and implementing organizations view or measure return on investment?

## Intended Use of the Evaluation Findings

Attention to topics and issues that support policy development are grounded in a firm understanding of policy initiatives and the realities of implementation. As such, this evaluation aims to understand the malleable factors associated with gender empowerment, socio-economic development and/or the factors and conditions that mediate or moderate these relationships.

The findings of the evaluation will be communicated to internal and external partnership stakeholders as a means to advance and improve the WiSci program, continue to recruit additional partners, and commit to transparency and accountability of public funds and policy initiatives.

# Why Gender Matters in STEAM



Globally, women are significantly under-represented in both the leadership and workforce within each of the STEAM fields. This gender gap in STEAM begins as early as grade school, when cultural bias and lack of role models lead girls to feel deterred in pursuing careers in STEAM. This imbalance is particularly prevalent across sub-Saharan Africa, which continues to lag behind the rest of the world when it comes to gender equality in education generally. These inequalities are particularly stark in communities vulnerable to radicalization or violent extremism.

The World Economic Forum's 2017 Global Gender Gap Report presented the most recent Global Gender Gap Index. The index measures the relative gaps between women and men across four key areas: health, education, economy and politics. One key finding of the report is that countries' progress in education did not result in equivalent gains for women in earning opportunity, economic independence and leadership. Furthermore the report notes that, given the current rate of gender-narrowing progress in certain regions, places such as Sub-Sahara Africa and North America would take 102 and 168 years, respectively.

The following table is a sample of the 144 countries that participated in WEFs study, which illustrates countries where many of the WiSci participants were born and raised. Given the global index average of 0.68, WiSci participants from countries such as Malawi, eSwatini (Swaziland), Liberia, Ethiopia and Nigeria appear to face greater gender disparity in the collective scoring for economic participation, education, health and survival and political empowerment than their WiSci counterparts. The index also shows that home countries for alumnae like Rwanda may show equality in

gender disparity but educational attainment indicates room for growth. Conversely, the United States reflects low disparity scores for education and economic participation, yet a disparity exists in the estimated number of years that women can expect to live healthy lives v. men, as well as holding positions in high-level, decision-making roles in the political arena. The gender issues across home countries for WiSci are thus diverse and nuanced.

Country	Global Index		Economic Participation		Education		Health and Survival		Political Empowerment	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Ethiopia	115	0.66	109	0.60	134	0.82	44	0.98	50	0.22
eSwatini	105	0.67	112	0.60	59	1.00	1	0.98	102	0.11
Ghana	72	0.70	18	0.78	119	0.93	118	0.97	112	0.10
Kenya	76	0.69	44	0.72	120	0.93	1	0.98	83	0.15
Liberia	107	0.67	58	0.70	138	0.77	85	0.97	45	0.24
Malawi	101	0.67	85	0.65	126	0.91	77	0.97	81	0.15
Namibia	13	0.78	9	0.81	41	1.00	1	0.98	26	0.32
Nigeria	122	0.64	37	0.73	135	0.81	94	0.97	135	0.05
Rwanda	4	0.82	7	0.82	113	0.95	1	0.98	3	0.54
South Africa	19	0.76	89	0.65	64	0.99	1	0.98	18	0.40
Tanzania	68	0.70	69	0.67	125	0.91	62	0.98	44	0.24
Uganda	45	0.72	59	0.69	124	0.91	88	0.97	30	0.31
United States	49	0.72	19	0.78	1	1.00	82	0.97	96	0.12
Zambia	Data not available									

## What do women and men study?



Source: Global Gender Gap Index 2017, World Economic Forum

Researchers (Jiménez Iglesias, Müller, Ruiz-Mallén, Kim et al., 2018) suggest that while academic performance for females in STEAM fields is on par with male counterparts in secondary school, interest in these subjects wane disproportionately in tertiary education and advanced careers. The WEF study highlights similar findings related to gender representation in various fields of study. The figure above suggests that women are underrepresented in Engineering, Manufacturing and Construction, as well as Information Communication Technology. However, in the Natural Sciences, Mathematics and Statistics, both men and women equally engage in those fields.

In addition to the gender discrepancies in STEAM, curricula standards for STEAM education commits to achieving epistemic aims, such as higher order thinking skills, e.g., critique, constructing explanations, obtaining, evaluating and communicating information. As such, it is critical to understand students' beliefs about the individual and social processes employed and required for producing knowledge in various settings. Understanding how students view their learning follows theories of epistemological development, which suggest that an individual's beliefs about knowledge and knowing are environmentally contextual.

The goals of the WiSci camp focuses on strengthening STEAM content knowledge and skills, social and behavioural competencies, as well as other "unmeasurable" factors targeted during the camps, contribute to the holistic development of individuals. These factors (or rather factors that are difficult to measure) acknowledges that educational relationships are social, emotional, epistemological, normative, political, cultural and economic. Research suggests that some salient features of education and education initiatives such as WiSci, which are innovative and fluid from place and from different personal perspectives, entail understandings of wellbeing, agency, tacit and applied knowledge, criticality, creativity, equality and public good.

# Leveraging PPPs and the private sector in support of global initiatives

Public-private partnerships (PPP) serve as a framework for governments to work with the private sector and other societal actors in creating and generating new opportunities to deliver public services. Traditional PPPs are strict, bilateral legal agreements whereby private sector companies provide services traditionally delivered by the public sector. The contractual partnerships outline clear, stated objectives with the private sector bearing the risk for delivering a public service, and the public sector providing financing.

Contemporary public-private partnerships have evolved beyond traditional bilateral agreements to “cross-sectoral collaborations” bringing together diverse entities and stakeholders from the public, private, civil society, and academic sectors. These collaborative, multi-sector arrangements offer significant opportunity for delivering services aimed at addressing global challenges. Within new partnership models, the role of different actors have shifted, leading to emerging findings and trends about what makes collaborative partnerships successful.

Literature on partnerships fails to fully capture the dynamic nature of what collaborative partnerships consist of. In many cases, the term PPP is still utilized as a label for collaborative partnerships, despite representing the traditional, formulaic model. Therefore in this section, we discuss the role GP plays in supporting collaborative partnership models, and outline how private sector firms are evolving their thinking and approaches in support of global initiatives. We then describe some leading practices for forming and sustaining impactful partnerships, to inform the findings and discussion for questions related to objective 2.

## OGPs role in WiSci and beyond

For over a decade, GP has served as a center of excellence for collaboration between the private sector, civil society and the U.S. State Department. GP builds and facilitates partnerships that leverage the creativity, innovation, and core business resources of partners for greater impact, serving in various capacities.



In 2015, GP introduced the WiSci program with support from founding partners, Intel and Girl Up. WiSci is one of GP’s many partnerships that brings together cross-sectoral stakeholders from multilateral organizations, the private sector, non-governmental organizations, and various government entities.

Innovative programs and partnerships like WiSci help to advance U.S. foreign policy goals, such as strengthening diplomatic and development efforts and through balanced international engagements that enable the self-reliance of partners and allies. Furthermore, these partnerships and programs provide experiential evidence of how the PPP model has evolved to deliver value for various stakeholders.

## GP’s varying roles in organizing partnerships

**Convener:** Bringing together people from across regions and sectors for common objectives.

**Catalyst:** Launching projects and providing partnership training and technical assistance.

**Collaborator:** Working closely with partners to optimize resources and best practices.

**Cultivator:** Nurturing partnerships by providing access to networks and mentorship.

GP is built on the idea that new partnerships and collaboration are required to better respond to the complex global challenges. Acknowledging the need for new partnership models, the U.S. Department of State believes that globally we've "entered into a new era of collaboration" based on risk-sharing and value creation to advance mutual goals. These partnerships are defined by:

- **Co-created solutions** to shared problems that advance the core goals of each of the partners;
- **Sharing risk, investment** (direct or indirect), and **potential reward** for all partners; and
- **Leveraging unique partner skills and assets**, producing outcomes with greater impact than could be achieved independently.

The purposes of objective 2, attention and consideration to the role of the private sector, specifically, within this new era of collaboration further informs the findings related to private sector motivations with WiSci as GP considers opportunities to scale the partnership.

## Evolving role of the private sector in partnerships

As demand for private sector investment increases, particularly with respect to addressing global issues, companies have expanded their thinking on how to leverage collaborative partnerships. Many companies look to partnerships as an opportunity to advance and solidify their global presence and brand, while establishing their role as societal change makers. For many industries, consumer purchasing power demonstrates that the traditional, single bottom-line approach to conducting business is no longer enough. As consumers and employees demand more from the companies with which they engage and work for, businesses have recognized the opportunity to create shared value within all their operations and practices. The shared-value framework distinguishes that companies can move beyond traditional corporate social responsibility (CSR) and corporate citizenship by embracing their role in society as a change makers, improving their competitive advantage and fortifying employee retention in the process.

Collaborative partnerships are one of many innovative vehicles for the private sector to advance its mission in support of global initiatives like WiSci. When developing

countries gain economic and political stability, the appetite for multinational corporations investment in emerging markets increases, furthering the opportunity to leverage partnerships and collaboration. Businesses look to collaborative models to gain entry into new markets while supporting regional and local employment and issues that citizens care about while delivering impact in return.

Firms also recognize the value social engagements provide for their brand in the eyes of current and prospective employees. Technology firms, like Google and Intel especially, are ever-competing to source and retain top talent. Research shows that millennials are more socially-minded and seek meaningful opportunities within their work, while desiring to work for firms that are making a difference in the world. Further, millennials and the workforce today are much more transient in their careers, often opting to move from company to company and embrace the "gig economy". Firms can leverage their CSR activities to help strengthen their brand for recruitment and utilize opportunities to improve the employee experience



In recognizing the value of increased collaboration, companies organize and structure their CSR activities in ways that influences their partnership goals and, in turn, directs how they seek and interact with partners. A growing number of organizations seek targeted, intentional outcomes with their investments. These outcomes have implications for their CSR activities and how they structure their internal organization.

### **Desired outcomes from partnerships and CSR investments**

Outcomes from CSR activities are mixed depending on the firm, industry, amount of allocated resources, geographic location, size and a number of other factors. Some common outcomes that companies seek in organizing their activities, whether through partnerships or other vehicles, include:

- **Alignment with a “company’s value system”:** a firm invests in a project or partnership because of alignment with its purpose and values.
- **Targeted at a mission the company and/or its employees cares about:** Investments are in partnerships and projects the company’s leadership are passionate about, and/or those that employees are passionate about where the company offers matching contributions for employee donations.

- **Provides opportunities for a firm to further its employee engagement and appeal to talent:** firms utilize activities to provide employees an opportunity to invest in social impact activities through volunteering or financial contributions. Furthermore, recent workforce reports suggest that new entries seek to work for businesses that take the lead in solving the local and global issues. Organizations that are able to demonstrate social concern are more likely to appeal to local talent thereby supporting the local workforce.
- **Generates social impact:** Demonstrable impact from the project or partnership on the community/ mission it is focused on. Companies want to justify their investments and demonstrate that it is worth the time and money, and is generating impact on the area the care about. In addition, companies have to respond to shareholders about where they are utilizing resources, so ensuring that they are effective is of concern to some firms.
- **Advances social capital:** Firms look for strategic relationships to improve brand identity through alliances with other firms/organizations that are respected and recognized in markets they care about.

- **Improving the bottom line:** Given the abovementioned outcomes, the partnerships and CSR activities also afford market penetration and/or strengthen its image and brand amongst existing or new consumers.

### **Best practices for collaborative partnerships**

As stated above, with the Office of Global Partnership the U.S. Department of State believes we are in “a new era of collaboration and partnership with non-government actors based on risk-sharing and value creation to advance mutual goals”. Various frameworks and practices have emerged in the past decade to guide partnership formulation in building new collaborations.

Collective impact, for example, provides a framework to bring diverse stakeholders and sectors together in a structured way around mutually reinforcing goals to achieve social change.



From scanning various frameworks, commonalities across best practices reveal what is important to consider when constructing collaborative partnerships, which provide a useful backdrop in considering what motivate partners to support WiSci, and how the partnership can continue to evolve as GP considers scaling opportunities. Collaborative partnerships function most effectively and efficiently when:

- Clear mission, goals and objectives exist
- A central, backbone organization manages and coordinates the partnership
- Partners are involved early in the formulation of the partnership
- Partners have a seat at the table in setting the direction of the partnership and navigating dynamics
- The partnership is adequately resourced – financial and personnel
- Partners experience mutual benefits and shared responsibility across their respective roles
- Partners trust and respect one another
- The partnership has good communication and transparency
- The partnership has a common metrics and a clear plan for evaluating its impact
- Partners have a seat at the table in setting the direction of the partnership and navigating dynamics

- The partnership is adequately resourced – financial and personnel
- Partners experience mutual benefits and shared responsibility across their respective roles
- Partners trust and respect one another
- The partnership has good communication and transparency
- The partnership has a common metrics and a clear plan for evaluating its impact.

These factors are considered and revisited in the recommendations and discussion section of the report.

# Objective 1 – Methods

## Objective 1: Outcomes for WiSci Participants

**How did participation in the camp empower adolescent girls from Africa and the United States and equip them with skills and knowledge to pursue careers in STEAM fields?**

- What skills did the girls receive at the camp?
- What are the girls' majors, if at university?
- How have the girls been using their leadership skills?
- What impact did the camp have on their engagement in their communities?
- How did the girls stay in touch with their fellow campers?

We use an outcome evaluation design to answer Objective 1: Outcome of WiSci Camp for Girls. The design seeks to evaluate the causal impact of the WiSci experience on its participants, e.g., how it equipped the girls with STEAM skills, and how and whether girl participants advanced their social and behavioral competencies towards STEAM fields.

**Social and behavioral competencies:** social skills, attitudes, and behaviors that may be important to students' academic and post-academic success.

The review of WiSci documentation, as well as discussions and preliminary informal interviews with the GP and key stakeholders, assisted in the conceptualization of the evaluation design. In particular, the evaluation team honed in on critical elements of the design to validate the evaluation questions, articulate program assumptions and hypotheses, and identify data sources, metrics, and measurement rationale. The following table provides an overview of the evaluation design for Objective 1.

Mixed Methods	Quantitative	Qualitative
Sample	<ul style="list-style-type: none"><li>• 2015, 2017 &amp; 2018 WiSci participants</li></ul>	<ul style="list-style-type: none"><li>• Volunteers (US and African)</li></ul>
Size	<ul style="list-style-type: none"><li>• 103 alumnae</li></ul>	<ul style="list-style-type: none"><li>• 25 alumnae</li></ul>
Data Sources	<ul style="list-style-type: none"><li>• Online survey tool</li></ul>	<ul style="list-style-type: none"><li>• Participant volunteers</li></ul>
Instruments	<ul style="list-style-type: none"><li>• WiSci Alumnae Survey</li></ul>	<ul style="list-style-type: none"><li>• WiSci Alumnae Interview questions</li></ul>
Data Collection	<ul style="list-style-type: none"><li>• Daily assessment of responses</li><li>• Social network reminders</li><li>• Download responses from online tool</li></ul>	<ul style="list-style-type: none"><li>• Telephone interview</li><li>• 30-45 minutes</li><li>• Conducted by evaluation team member</li></ul>
Data Analysis	<ul style="list-style-type: none"><li>• Conducted by evaluation team</li><li>• Descriptive statistics</li></ul>	<ul style="list-style-type: none"><li>• Conducted by evaluation team</li><li>• Elucidate survey responses through examples</li></ul>

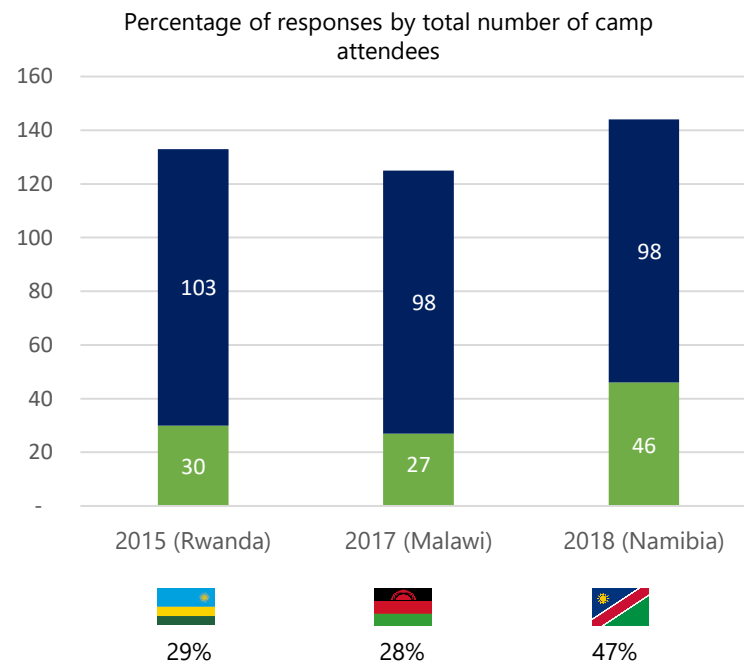
## Size and Sample

### Alumnae survey

Two hundred ninety-nine girls (n=299) participated in the 2015, 2017 and 2018 camps. Of the 299 alumnae, 103 girls participated in the survey across various cohorts and locations.

Number of survey responses by cohort and country

Country	2015 participants	2017 participants	2018 participants	Total number of participants
Ethiopia	-	-	8	8
eSwatini	1	-	8	9
Ghana	1	-	-	1
Kenya	-	-	10	10
Liberia	-	-	-	0
Malawi	-	2	-	2
Namibia	-	1	8	9
Nigeria	4	-	-	4
Rwanda	2	4	-	6
South Africa	7	1	-	8
Tanzania	-	-	-	0
Uganda	2	2	-	4
United States	13	16	12	41
Zambia	-	1	-	1
<b>Total</b>	<b>30</b>	<b>27</b>	<b>46</b>	<b>103</b>



### Interviews

Twenty five WiSci alumnae participated in the interviews. The interview participants comprise 24% of the online survey participants.



## **Data Collection and Instruments**

### **Alumnae survey**

The online survey to the 2015, 2017 and 2018 cohorts was disseminated using the latest available email addresses provided by GP and the alumnae coordinators. In order to increase survey response rates, the evaluation team along with Girl-Up sent reminder emails and leveraged social network dissemination. The evaluation team prioritized participant confidentiality in the survey, both to protect the respondents and to encourage honest responses. The evaluation team ensured security and anonymized the responses used solely for the purpose of the evaluation

The WiSci Alumnae survey consists of six (6) sections and reflects the thematic focus areas, as well as general demographic information: 1) General information; 2) Education and Employment; 3) Community Involvement; 4) STEAM knowledge and skills; 5) Leadership, Empowerment and Engagement; and 6) Cultural Experiences and Networks.

### **Interviews**

The evaluation team conducted twenty-five 30-45-minute interviews with volunteer WiSci participants. The one-on-one –semi-structured interviews were conducted by phone using interview guides consisting of ten semi-structured questions, which related to the focus areas of the survey. The interviews aimed to elicit as many examples from the participants in order to gain a deeper understanding and justification of individual perspectives.

## **Data Analysis**

Using a mix of qualitative and quantitative analytical methods, the evaluation team interpreted the findings, relating them back to the evaluation questions. Prior to substantive analysis, the team conducted preliminary data validation to identify any missing information and imputate incomplete survey data, e.g., girls who did not attend the Rwanda, Malawi or Namibia camp, but completed the survey .

Using the information gathered from survey and interviews with the American and African WiSci participants, the evaluation team used quantitative and qualitative methods to analyze the data on the program's impact.

## **Limitations**

Limitations that contributed to reduced response rates from the survey, as well as preventing randomised selection for the interviews, included access to participants and incorrect email addresses and/or mobile numbers. The evaluation team worked with the GP and Girl-Up to mitigate and deploy contingency strategies such as increased communication over social network platforms and developing means for providing internet access.

With respect to the alumnae interviews, the girls who agreed to participate in the interviews were taken from the sample who completed the survey. While the evaluation team attempted to conduct a random sample of interviews, the response rate was limited. Other limitations to the evaluation include controlling for the contextual and cultural variables per country, as well as for the social and gender context in the STEAM field.

# Impact of WiSci on Participants

## What skills did the girls receive at the camp?

	Unsure	Did not improve	Somewhat improved	Improved greatly
Physical science	14%	19%	45%	22%
Biological science	19%	26%	36%	19%
Computer coding	1%	6%	21%	72%
Computer programming	1%	8%	24%	67%
Computer software	4%	7%	32%	57%
Computer hardware	6%	7%	36%	51%
Computer operating systems	6%	14%	36%	44%
Electricity and circuit design	4%	11%	44%	41%
Digital and analogue circuitry	11%	18%	42%	29%
STEAM career opportunities	5%	3%	18%	74%
Gender Empowerment	9%	3%	7%	81%



- 24% reported **proficient skills** in physical sciences
- 29% reported **proficient skills** in biological sciences
- 24% reported the **ability to write** computer code
- 16% reported the **ability to create** software applications
- 6% reported the **ability to diagnose and fix** technical issues with computer hardware
- 23% reported **proficient skills** in operating systems
- 21% reported the **ability to wire** an electric circuit
- 8% reported the **ability to convert** analogue into digital circuits

99%

## Empathy

Reported that the camp helped them to be more empathetic and to see things from others' perspectives.

94%

## Self-Confidence

Reported that their self-confidence improved as a direct result of the camp.

90%

## Problem Solving

Felt that the camp improved their ability to apply problem-solving skills in their life.

84%

## Public Speaking

Indicated improvement in public speaking as a direct result of the camp.

## What impact did the camp have on their engagement in their communities?

- 100% of girls reported that as a result of the camp, they now **motivate others to be more active** in the community
- 89% of girls indicated that since the camp, they work in their communities to **empower other young women**
- 82% of girls indicated that since the camp, they **promote change for "at-risk" youth** in their communities.

## Girls engage in their communities in the following ways:

- Attending** events focused on development, empowerment and social engagement
- Participation** and **establishment** of Girl Up clubs or other clubs
- Teaching** and **inspiring** other girls in terms of leadership skills, STEAM, self confidence
- Participating** in existing community initiatives
- Telling** others about their camp experiences

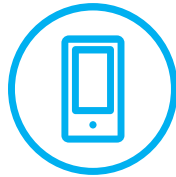
# Leadership and connections following the WiSci camp

## How do the girls stay in touch with their fellow campers?

**94%** of WiSci girls are still in touch with other girls that they met at the camps.



**64% use social media** (e.g. Snapchat, Instagram, and Facebook) to stay in touch with each other.



**18% rely primarily on instant messaging apps and group chats** (e.g. WhatsApp) to stay in touch.

**57% communicate with WiSci mentors and counselors** for advice; connections to people in STEAM careers; or assistance with getting into higher education.

**32% continue to collaborate on STEAM-related issues** including starting or participating in Girl Up Clubs; organising STEAM events or initiatives; positioning themselves as role models for other girls

## WiSci Participants pursuit of STEAM education

**40** of **103 girls** are currently pursuing tertiary education.  
**78%** of these girls are studying STEAM subjects.

	Science	Tech	Engineering	Arts	Math	Business	Other
2015	8	3	6	—	—	2	1
2017	6	4	—	1	1	1	5
2018	2	—	—	—	—	—	—
<b>Total</b>	<b>16</b>	<b>7</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>6</b>

## Applying Leadership in Diverse Communities

- **86%** of girls indicated they are now more likely to volunteer for leadership positions.
- **89%** of girls felt their leadership skills improved as a result of the WiSci camps.
- Girls reported **seeking and obtaining leadership roles** to empower other girls in their communities, creating initiatives in their communities, and teaching, tutoring and mentoring others.

# Objective 2 – Methods

The second objective of the evaluation sought to identify factors that support the WiSci partnership and successful implementation of the WiSci camps. To address the related research questions, the evaluation team utilized mixed qualitative research methods. Primary data collection focused on in-depth interviews with a targeted set of partner representatives. Secondary data collection consisted of a targeted literature review and document analysis of various WiSci program and partnership documents.

## Objective 2: Partner Motivation and Involvement

**What is required to implement successful international WiSci camps to meet program and partner goals, and strengthen the public-private partnerships?**

- What are the primary reasons that partners participate in the WiSci program and partnership?
- How do the goals of WiSci support the individual goals of partners?
- What internal and external factors promote and prohibit partner and implementing organizations from participating in WiSci?
- How do partners and implementing organizations view or measure return on investment?

## Size and Sample

The interview sample consisted of 18 partner representatives. The GP generated the sample with emphasis on gaining insights from private sector partners to increase understanding of how and why organizations provide financial support and other resources for WiSci. Of the 18 names provided, the team received responses from 13 partners. The types of partners, a description of the category and number of interviews conducted are listed in the following table.

Partner type	Description	n=
Founding	<ul style="list-style-type: none"><li>• Helped found and build WiSci</li><li>• Contributes financial and in-kind resources</li></ul>	5
Resource	<ul style="list-style-type: none"><li>• Contributes financial and in-kind resources</li><li>• Delivers content during the camps</li></ul>	4
Content	<ul style="list-style-type: none"><li>• Contributes and delivers content during the camps</li><li>• Provides in-kind support and covers their time and resources</li></ul>	3
Implementing	<ul style="list-style-type: none"><li>• Receives funding from WiSci</li><li>• Provides logistical support</li><li>• Responsible for camp development</li></ul>	1

## **Data Collection and Instruments**

Interviews with the 13 partners were conducted over a four-week period. The evaluation team used standardised questions across the various interviews. Representatives from founding partners, resource partners, content partners and implementing partners shared individual and organizational perspectives and insights related to:

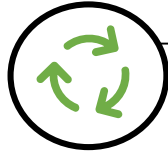
1. Organizational motivation for participating and engaging in the WiSci partnership;
2. How WiSci aligns to goals for partners and opportunities to improve the delivery of WiSci programming
3. Factors promoting and prohibiting partner involvement and future participation; and
4. How partners view and measure return on investment

## **Data Analysis**

The evaluation team for meaningful and emerging themes to identify trends and patterns related to the research questions. The findings are organized around key research questions with headings stating themes that emerged through the analysis of interviews. We include quotes and the partner's primary association with the partnership (i.e. founding partner v. content partner) to further illustrate the perspective.

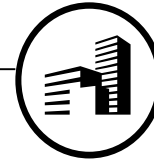


# What is required to implement successful international WiSci camps to meet program and partner goals, and strengthen the partnership?



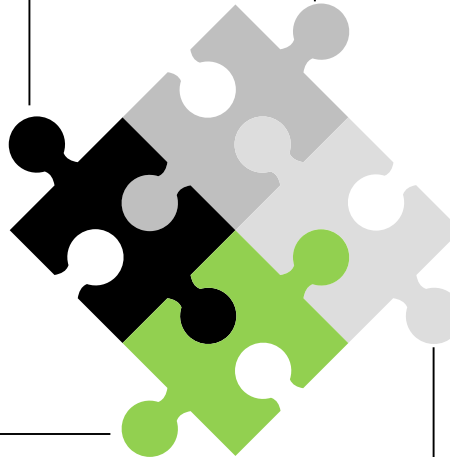
## The primary reasons partners participate in WiSci:

- **Alignment to mission** and connection to core, current and future business activities
- Opportunities to **build relationships with DOS** and international partners
- **Geographic relevance** and interest in new, emerging markets to create a presence
- Companies utilize WiSci to provide a meaningful, **employee engagement experience**



## The internal and external factors that prohibit partners from participating:

- The **time commitment** to support WiSci and the **internal structure** within the organizational/company where WiSci sits
- The **buy-in from leadership and staff**, and the commitment year-to-year involved in delivering the WiSci camps



## WiSci aligns to individual partner goals and supports partner engagement through:

- Opportunities to build **relationships and trust** year to year with other partners and GP
- Open, increased **communication** and **collaboration**
- Clarity in model to ensure goals of WiSci are **outcome oriented** and **connect to partner goals**



## Partner' desires for return on investment and scaling are:

- Seeing **more women and pathways into STEAM careers** in the long term
- Providing a **valuable, cross-cultural experience** for girls
- **Evidence** that WiSci is working to **justify investments**
- Mixed and mild response on increasing their investment but seek **greater predictability and strategic approach**

# What are the primary reasons that partners and implementing organizations participate in the WiSci program and partnership?


Partners highlight key motivators for their organizational and individual participation in WiSci including alignment to mission, opportunity to build relationships with other partners within the partnership, and desirability to build a footprint within WiSci camp destination for their companies and employees.

Firms and organizations that focus on STEAM related work are more likely to invest in social initiatives that connect with the heart of their business. This aligns to their actual mission and supports longer-term skill development and a pipeline for future talent. Private sector partners explained a desire to “have more people from diverse backgrounds in (STEM) pipelines”, and “wanting more opportunities for girls to learn about educational paths and careers in these fields.” This finding is consistent with CSR research and recent trends in corporate giving. According to the 2018 report on corporate giving and employee engagement from the Committee to Encourage Corporate Philanthropy (CECP), STEM and Workforce/Employment demonstrated the greatest gains as a percentage of giving for companies. The responses from partners mirrored these global findings. Education is a program area that typically receives the greatest amount of funding from the private sector, and by focusing on STEM/STEAM particularly for young woman on a global scale, organizations are able to address gender and socio-economic access in developing countries.

This was consistent with how and why private sector companies partner with WiSci – both from a mission alignment perspective, and in how they think about return on investment. Companies want to engage because of the opportunities to further their own strategic goals and mission, build and improve their brand recognition, and leverage the

network and engagement opportunities that the State Department and other partners provide. The credibility of DOS was cited as a critical factor for their involvement. Without DOS, partners explained it “would be very difficult for corporate partners to support WiSci”.

Further, with WiSci, major financial contributors view it as an opportunity to improve the employee experience. The partnership offers an impactful vehicle to promote employee satisfaction, and keep and attract talent in a competitive technological market. As technological firms like Google, Intel, Microsoft and others compete for talent, outlets to create meaningful impact can be leveraged for recruitment. The millennial generation seeks different objectives than workers in the past, wanting more out of the products they consume as well as the places they work.



**We want more women and people from diverse backgrounds in our pipeline – WiSci Resource Partner**

## How do the goals of WiSci support the individual goals of partners and organizations?

As noted from the previous responses in Question 1, many partners addressed the issue of alignment between WiSci to mission and strategic goals. While somewhat of a deviation from the original question, the majority of responses to Question 2 focused on “support” as the action and processes experienced and required of the partnership. In other words, partners focused on *their feelings and needs to be supported to fully engage in the WiSci program*.

Themes that emerged during the interviews included issues of trust, communication and ongoing relationship-building and collaboration. In any partnership, but particularly those that invest substantial human and financial resources, all parties require a certain sense of dedication and reassurance that the parties will uphold their commitment and fulfil their responsibilities. Partners expressed the importance of trust in the partnership, especially over time in working with the same organizations and individuals. The relational aspects of the partnership, and the individuals play a significant role in ensuring its success with one partner noting that partnerships are as much about the “individuals as it is about the organizations”.

Some content partners (who tend to be lower on the partnership hierarchy because they do not provide financial support) expressed that communication can be at times limited, influencing the potential for collaboration across the partnership.

**The partnership is really built on trust. As a founding partner, we trust GP and the partners involved. The trust has grown through the opportunity to build relationships with those involved in the camps, especially the people at GP.** – Founding Partner

Private sector partners explained that time is constrained to communicate leading up to the camps, preventing collaboration across the curriculum and content. The time investment for logistics to prepare to send teams was noted as a factor prohibiting these partners from taking a more active role in updating and revising their curriculum. Despite the time constraints, Partners in general expressed that relationships are maintained through in-person interactions during the actual camps, leaving opportunities to build additional in-person interaction points to improve cohesion and quality outside of the delivery of the camps.

Building on the issue of quality, some partners expressed issues related to programmatic support, specifically with respect to securing ongoing collaboration with content-focused institutions/organizations to strengthen some of the STEAM components. The experiences of various partners and camps as noted in the responses, suggest that the expectations of the type of support partners require may require greater transparency and level-setting by OGP and implementing partners.

## How do the goals of WiSci support the individual goals of partners and organizations?

Relatedly, a tension was highlighted in the model connected to program outcomes and the “pay to play” approach to financial contributions. Funding/resource partners express a desire for greater interaction directly with girls.

This connects to their goals for their institutions/firms in investing in WiSci, as it provides an outlet for employee engagement and other related factors noted above (i.e. mission alignment). As the partnership evolved, in some instances these partners demand greater time with girls because of their financial investments. This presents a tension between the mission of WiSci, its desired outcomes, and what is best for the girls who participate, and the financial sustainability of the programming long term.

The status of WiSci within and across the different private sector partners seemed to be lower on the hierarchy of priority in terms of how and where they invest resources. Partners were asked about how they determine contributions, and where they invest resources relative to other programs and priorities in their portfolio. WiSci fell toward the bottom of their total pool of investments despite their individual feelings about its value and impact. The internal structure and where the individuals sit within the company dictated how much they could contribute.

Their commitment year-to-year from a time investment standpoint demonstrates the value they derive from WiSci, but within their portfolio, it represents a fraction of the proportion of what they fund in total. Consistent with the literature and findings from question 1, the priorities are set by organizational mission

and how it aligns to overall strategy and business. However, it is important to acknowledge the role of the individuals in ensuring the program continues to be supported. Achieving quality and individual returns on their investment, while supporting (if not elevating) the goals of the WiSci appears to be critical factors to how these specific firms make contributions.

**What we look for is partners that are looking for the same goals and policy objectives that we are aiming to achieve. And if they are, what projects and products are they actively engaged in to achieve that goal... and can we add value to something that they are already doing that we mutually believe in. – Resource Partner**

# What internal and external factors promote and prohibit partners and organizations from participating in WiSci?

Questions 1 and 2 discussed a number of factors that promote partnerships and participation in the WiSci program and, as such, this section describes the existing and/or potential barriers that may hinder greater participation. Partners discussed barriers to their support of WiSci. Common identified barriers included time commitment (especially for resource partners) to invest and deliver programming, implications from staff and leadership, and financial constraints especially when considering scaling/expanding their involvement in WiSci.

From an internal perspective, a number respondents across the range/category of partners identified the time commitment as “significant” to deliver a quality camp. Many of the partners noted the limited internal support from their respective organisations. For example, while employees found value in the ‘giving’ aspect of partnership, the additional time required to coordinate, prepare and deliver workshops at the camp - coupled with maintaining standard work responsibilities – were noted as constraints for more employees to become more involved. Private sector partners who support WiSci from an internal business unit explain they are not “rewarded or given additional pay increases” because of their investment in WiSci. However, the opportunities for international travel and worthy social “CSR” activities (as noted in the Question 1 related to employee engagement) off-set the time limitations for individuals.

The findings also suggest that changes to leadership and staffing within the current partnership can impact its long term viability.

Partners discussed that the current staff are vital to the program’s delivery and when staff depart, it has posed challenges on sustaining the programming. As discussed in question 2, individuals and their personal investment has been critical to date in support of maintaining and sustaining WiSci and their organizational investments. This could change if individuals leave their firms.

Some respondents suggested that possible changes in leadership or drivers within organizations may be a possible risk for long-term partnerships. One founding partner remarked that they are currently in the process of “selecting a new CEO”, and the new person’s “philosophy could shift what our foundation should be focused on.” As WiSci looks toward expansion, considering who is bought into the model, and how they are involved has implications for the long term sustainability of scaling the partnership.

**Our constraints to scaling are funding. We fund WiSci directly through independent money, so leadership has to approve our involvement... our other programming is funded through grants, so we would have to find potential funders to increase our support. – Content Partner**

## How do partners and implementing organizations view or measure return on investment?

Consistent with mission alignment and goals for individual investments in CSR activities, demonstrable impact of the programming on the girl participants is a top motivator for participants. Partners offered perspectives on the outcomes they seek with WiSci, how they measure and think about the return on investment through the partnership, and the importance of evidence for scaling their inputs and investments.

**On the impact side, we want to make sure that the camps are a valuable experience for the participants, and that it opens new opportunities for the girls. One thing is the incredible transformation over the camp is the self-efficacy and confidence from before and after the camp. The sense of empowerment they seem to feel in being able to imagine and determine their future is the biggest return on investment we could hope for. – Founding Partner**

From a return on investment standpoint, partners did not directly indicate that they are seeking and measuring specific results from WiSci. They referenced generally a desire for WiSci girls to have a “transformational experience” and one that connects with the long-term goals of creating a broader pipeline of females entering STEM careers. The partners did not state that they are measuring the results and taking an outcome oriented approach to how they make decisions with their funding. Interestingly, impact from the programming was cited by partners as something required to further their involvement and support scaling activities related to the partnership.

All types of partners explained that having evidence (e.g. this report and its findings related to objective 1) will help increase buy-in from current and future leadership, external funders, and staff. Despite this acknowledgement, when asked about ROI, partners spoke more in generalities and how WiSci connected to their overarching mission.

Related to scaling, continuing to demonstrate evidence of impact can be harnessed to overcome some of the previously acknowledged issues of gaining deeper buy-in from leadership. When asked directly about interest in scaling and longer term financial support, partners were mixed in their willingness to see WiSci scale citing concerns about the programming getting more formal attention from their company if it grew in size. One resource partner explained a preference to continue to be “scrappy and small”, as more resources would lead to greater scrutiny within their company. These same funding partners also cited a desire for greater strategy and vision for WiSci before they could consider moving toward a larger financial investment to support scaling.

# Discussion and Recommendations

Based on the data collected and findings for Objective 1 and Objective 2, a set of combined recommendations for GP to consider is included as it looks towards improving the outcomes of the WiSci program and enhancing STEAM and leadership experiences for the participants, strengthening existing partnerships, cultivating new partners, and further solidifying and executing the WiSci partnership and program. The recommendations are designed to highlight the opportunities that the findings present for GP and its partners, as they look to scale and expand WiSci's impact.

## 1. Develop a long-term strategy and solidify the model.

**Refine and document the vision, mission and goals for WiSci and create a strategic plan for its growth.** In the initial document review for this evaluation, the evaluation team wrestled with pinning down a common, core framework that fully elaborates the mission and goals of the WiSci partnership. One of the bedrocks of PPP's and newer, "collaborative partnership" models is an established vision, mission and goals to direct the partnership, its activities, decision-making and programming, and provide all partners a common agenda for what each organization and individual is working towards. The alignment of goals holds all partners mutually accountable and, in many cases, builds a strong case for establishing long-term and sustainable partnerships.

WiSci should consider (re)generating a theory of change and conceptual framework to guide its current and future strategy. This supports partner perspectives on the need for a longer-term strategy to plan for future involvement to secure investments and

commitment from leadership. Furthermore, as the partnership and GP look to scaling opportunities, the strategy and vision for WiSci will be critical to recruit and solidify additional partners.

**Define the core beneficiaries of the WiSci camp.** As the mission and theory of change is refined, GP and its partners should give further attention to "who WiSci is for". From interviews and discussions with GP, the application and intake approach seems to have shifted from the earlier camps, to make the camp more accessible to girls from all types of backgrounds. During the initial camps, the program beneficiaries were girls who were currently engaged in STEAM education through specialized schools, e.g., South African School for Science and Technology, or strong STEAM programs in their schools. While one of WiSci goals is to increase exposure and entry into STEAM fields, many of the alumnae survey and interview participants exhibited a strong interest in STEAM and STEAM careers prior to attending the camp.



Given the literature which suggests that maintaining interest and/or continuing careers in STEAM for girls and women continues to be a challenge, WiSci could focus on supporting and enhancing girls' network, mentorship and experience, particularly for girls whose families may not have the resources to support girls' future in STEAM. One founding partner explained that the program should be for people who come from a background where they actually need it, and the "\$5000 should go to a girl who needs it, not the person who is attending the Global Youth Summit in Greece".

Establishing the beneficiaries of the camp and clarifying the intake process should be tied to the overarching strategic and scaling plan. GP may consider balance and diversity across various levels from parental income, education experience, location and geography and other internal attributes in the applications. Diversity is an aspect that could be more intentionally supported in the program and curriculum design.

Partners shared that participants have varied skill levels in technology with some "barely knowing how to use a mouse" and others already being experienced coders. The girls expressed learning more from their interactions with each other than from the actual curriculum and content. Consider advancing a pedagogical, experiential education model that harnesses peer-to-peer learning, and reflect it in the intake process.

**Update the curriculum and content based on revised strategy.** Within the core mission and goals, consideration of the current curriculum and what WiSci is striving to achieve should inform and evolve the curriculum and delivery of programming.

The review of camp curricula in 2015, 2017 and 2018 suggests that time spent in various content areas varied from year to year. This variance poses challenges with respect to the mission and goals of WiSci in providing girls' exposure to various fields of STEAM, e.g., minimal exposure to biomedical engineering and more concentration on coding, as well as challenges to monitoring impact across camps. Many of the alumnae interviewed stated that they enjoyed learning about different STEAM fields and concepts, many of which were new to them. While WiSci relies on the content of the partners, establishing content and partners across the spectrum of STEAM would pique girls' interests and maintain the goals of the WiSci program.

With respect to the curricula and partners, partner interaction appears disparate and lacks a coherent, connected curriculum. Partners indicate that time is constrained to communicate in the lead up to the camps, as well as to evolve the curriculum they deliver year-to-year. Consideration of how to augment and further support partners in curriculum development and improve overall communication and coordination across the partnership is recommended. Partners discussed overlapping objectives with the curriculum but lack coordination. For example, in some instances content partners are drawing on tools from resource partners. There is opportunity to solidify the curriculum and improve efficiency by building in additional support and integration for partners who lack the time to update and revise.



**Establish a pedagogical approach to delivery.** While alumnae reported quite positive feedback about the camp, many girls stated that the camp programming “feels like school”. Adolescent girls immersed in a cultural STEAM exchange during their summer vacation or winter holidays described the frustration of listening to the workshop facilitator talk about the subject rather than engaging or “doing” a hands-on activity. Given the workshops are taught by technologists, scientists and engineers, instituting and emphasizing the envisioned pedagogy would assist the partners in developing playful and relatable workshops which would, in turn, add to the STEAM knowledge and skills impact. Additionally, when an approach is documented and aligned to the goals/strategy of WiSci, partner support can be better aligned to needs to support the departure from the “pay to play” model.

**Devise a structured plan for alumnae engagement.** Given the impact and inspiration that WiSci afforded to girls across Africa and the US, the girls appear to be WiSci’s best marketers, promoters and possible partners for future camps. However, WiSci and the implementing organization requires concerted efforts towards maintaining connections and contact information of alumnae. Over and above leveraging future support, longitudinal case studies of alumnae would demonstrate long-term impact and achievement of program goals. In addition, the case studies would benefit educators, organizations and various institutions in understanding how innovative and cross-cultural ways of learning “sticks” with adolescents. As one alumna mentioned, “I always think about how we were taught [at WiSci] to ask questions and find ways to solve problems.”

**Increase in-person interactions.** Partners highlighted the issue of trust as a factor that supports their year-to-year support for WiSci. Relationships are built during the actual camps through in-person interactions, which are strengthened over each camp. These in-person interactions are critical to sustain the partnership, as the individuals are as important as the organizations that are involved. Consider how to create more individual interaction points throughout the year to help generate relationships and strengthen the partnership. As the partnership looks to scale, cultivating new partners to support is important, and ensuring they have meaningful opportunities to engage and interact with each other will help to build trust.

## 2. Cultivating new partnerships and scaling

**Move from reactionary to strategic** - The “pay for face time” model where resource partners who contribute the majority of funding receive the most face-to-face interaction with WiSci participants creates structural challenges in the delivery of programming, and the types of programming that girls receive during the camps. In cultivating new resource partners, it is important to move to an intentional, strategic model where boundaries and commitments are established around the mission of WiSci and its theory of change.

Partners explain that a primary motivator for participation in WiSci is the alignment to its mission and a desire to create impact with a population that connects to the organization’s core activities. Consider leveraging data from this report to demonstrate the impact the partnership is creating on participants, as well as the insights from girls outlining what is most impactful from the camps (e.g. opportunity to travel and cultural exposure to girls from other places), and the acknowledged gaps in curriculum (e.g. lack of science curriculum without a core funding partner).

**Consider where staff and leaders sit within the company, and the firm’s structure for its CSR activities** – when considering recruiting new resource partners to support scaling efforts, consider where the relationships are being developed within the company/firm, and the potential implications for engaging with WiSci. Current resource partners utilize different models for delivering their support – both financially and personnel-wise. Each model presents unique challenges. For example, the

- **Google model** is embedded within a specific business unit, supported by a committed individual and small team year-to-year.
- **Intel model** is supported by an external foundation that derives the majority of its revenue through employee matching contributions and internal business units. The commitment and investment is in two people within the foundation, but lacks full on support from Intel leadership. Much of the interest involves opportunities for employees to engage and participate in the camps while traveling to diverse locations.

**Leverage the reach and network to gain new, diverse partners.** Invite leaders to the table to support and participate from different groups to balance the risk concerns that partners stated across private sector and resource partners. Make it easy for leaders to participate and offer support for their involvement to ensure buy-in.

**Trust and turnover in staff.** Findings showed that partners value trust and the opportunity to engage with partners during the camps helps to nurture relationships across the various organizations. In addition, staff and leadership turnover was cited as a potential threat to the long-term support and investment in WiSci. The loss of institutional knowledge can pose threats to the viability and efficiencies achieved by the same group of people delivering the camps. In addition, the individuals are as important to the delivery of the camp as are the organizations. Some of the original people still support the delivery of the camp for their organization. Consideration should be given to ensuring resiliency.

**Build a replicable scaling strategy for the camps.** Create resources and build a roadmap and blueprints to provide a “how-to” guide for delivering and executing on the camps. Making it easy and transferable will allow future partners to quickly engage and benefit from the learning that has already occurred. Seeking opportunities to reach economies of scale where possible can support a more replicable model year-to-year. Balancing diversity of locations to ensure that partner objectives are met (i.e. employee engagement experience) with the need for lower costs is challenging but by instituting a strategic approach, WiSci can appropriately message to partners what the goals of the partnership look like, and where their dollars go.

**Funding considerations.** One resource partner requested “greater transparency” around funding and where the financing they contribute goes. In addition, GP shared concerns about the amount of overhead required to support and implement the camps, with one representative noting that “50% of the funding goes off the top to an implementing partner and overhead”. The survey and interviews with girls demonstrated that one of the most valuable and impactful aspects of WiSci is the transformational experience provided by the opportunity to travel to a new and foreign setting and intentionally engage with other young, diverse women and learn about their cultures. The hesitancy to share information about the total costs of the camp runs counter to best practices for collaborative partnerships and is a potential threat to establishing trust and sustainability. GP should consider marketing the opportunity and impact the camps provide through the experience, and the associated “overhead” required to deliver it as part of providing girls with that experience. Owning that the overhead is part of the

transformation and considering an overall cost per pupil to deliver the camp could allow WiSci to better leverage the impact on individual girls in its story for maintaining current, and recruiting new, partners for the partnership.

**Own the new approach.** As the new strategy is developed and curriculum is consistent with the theory of change and desired outcomes, own the model in how you message and present the needs for WiSci in recruiting new partners and maintaining existing partnerships. Be direct with partners about what the programming requires to achieve its desired goals. In considering expansion and new country locations, be predictive about costs and what partners are supporting financially. If partners desire diversity in country locations to support their individual businesses and employee engagement, seek their support in covering costs. If existing/founding partners resist change, present what remains the same and recruit them to support the partnership in accomplishing its mutual goals if they disagree with the future directions.

# Conclusion

This evaluation examined the Women in Science public-private partnership supported by the Office of Global Partnerships at the U.S. Department of State. By exploring the impact on participants from three, STEAM camps: Rwanda, Malawi and Namibia, and dissecting the experiences and motivations of partners within the partnership, the evaluation demonstrated the success in the WiSci programming to expose young women to STEAM education and careers in a multicultural environment.

The experiences of the participants across all three camps showed that WiSci is furthering interest and involvement in STEAM; improving basic STEAM competencies; advancing leadership skills; and catalyzing participant involvement in supporting female empowerment and engagement within their communities.

The evaluation also demonstrated what partners, particularly the private sector, seek in creating public-private partnerships; why they participate in WiSci; and opportunities to strengthen the current model and learn from partner experiences to advance and grow WiSci in the future. Partners indicated that their goals for WiSci align with their business practices and organizational mission. WiSci is viewed as an opportunity to further female involvement in STEAM careers while leveraging the platform to engage and create additional value for firms in international environments for recruiting and maintaining talent, and advancing relationships in new markets. Partners see opportunities to strengthen the partnership through improved collaboration and communications, while presenting a mixed perspective on whether and how WiSci should scale in size.

As WiSci considers scaling, partners expressed that being overt and strategic about how it scales, while ensuring that the programming is effective, impactful and focused on outcomes. These factors were taken into account in developing a concrete set of recommendations to help WiSci outline a strategic approach to furthering its current mission, expanding the number of partners, and scaling the camps to new locations. These recommendations included deeper consideration of a strategic plan for growth; solidifying the current curriculum and benefactors of WiSci; and drilling into WiSci's overarching theory of change. In addition, WiSci should develop an intentional strategy around cultivating new partners. By leveraging the results and marketing around the impact the camp has on the participants, WiSci can recruit new partners around the desired goals and outcomes for its strategic expansion.

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