



Girls **CAN** Code: Building a network of resilient changemakers in **Afghanistan**

Evaluation and Strategy



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Executive Summary

از محبت خارها گل می شود

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The Womanity Foundation are looking to transform what at first seem incongruous – *Afghan girls coding* - into an everyday reality, with Afghan girls designing websites and working meaningfully in or with tech. Womanity's Girls Can Code (GCC) programme has been working to change the parameters of the possible – for Afghan girls and women themselves. The Womanity Foundation are implementing GCC at a particularly critical juncture, with Afghanistan charting an uncertain path in 2020 and beyond. This uncertainty extends to the role of women in Afghan society, as well as the context for female education and employment. In a fast-changing environment, how can Womanity maximise their impact, and best work with Afghan girls to create tangible changes in their own lives?

With these questions as a basis, Samuel Hall:

- **Evaluated** the GCC programme from 2016 – 2019;
- Conducted a **context and market analysis** on potential income and work pathways for Afghan girls, with a focus on the tech sector and broader trends in STEM;
- **Mapped** a forward strategy for Womanity to scale its impact.

Samuel Hall worked with Womanity staff, government actors, schools, universities, and a range of tech organisations both in Afghanistan and beyond. Samuel Hall also worked with the people directly participating in GCC – current students, graduated alumna, and their families. GCC students, past and present, drew on their different life experiences and aspirations during the research. Young Afghan girls and women spoke about designing websites for internships or freelance work. Others expressed their desire to use tech in the health or education sectors in the future. Some discussed family restrictions and the opportunities that working from home might one day afford them. Others were advancing to or through university, preparing for high achievements using technology.

Evaluating the programme thus far, analysing the current context and collaborating on Womanity's forward strategy was centred on these diverse experiences of GCC students and alumna.

Evaluation of GCC from 2016 to 2019

The programme was found to have created meaningful changes in Afghan girls' lives since its 2016 inception.

- The programme is well-implemented and conducted with rigour and professionalism.
- Students and alumna report positive experiences attending the GCC courses, acquiring new skills both technical and soft, as well as increased feelings of self-worth, self-efficacy and self-confidence.

¹ From love, thorns become flowers.

- The programme has led to higher-than-usual numbers of girls choosing computer science pathways and gaining work experience through internships.
- The programme has changed perceptions on girls' abilities in a traditionally male-dominated sector.
- Many students are already on a path to continue their study in university, meaning internship opportunities are not necessarily attractive to all GCC students directly after secondary school. GCC graduates also tend not to fit the typical sought-after intern profile due to their young age. Nevertheless, in the period 2016-2018, Womanity was able to secure internship positions for 25% of the candidates who applied for them.

In order to ascertain in which ways GCC could further help build profiles, competences and skill sets matching the requirements of the labour market, the research team conducted a market and partnership assessment.

Context and market analyses

The labour market in tech continues to be, and is projected to remain, comparatively positive in its overall outlook. Many of the alternative career pathways that GCC students might be looking to pursue also hold increasing IT needs, such as working in clinics or hospitals, in journalism or in teaching. Yet more broadly, the context for female education and employment Afghanistan has competing and differently-paced trends. High school girls in Kabul frequently face conservative family restrictions. This can be the case even for GCC participants with the freedom to pursue higher education and potential careers. The political and societal situation regarding women and girls in Afghanistan has the potential to deteriorate rapidly. This broader context and the uncertainties in Afghanistan in beyond 2020 have important ramifications for GCC programming and strategy.

Roadmap for GCC from 2020 to 2025

Given the experiences of the GCC programme thus far, and the context for female education and employment in Afghanistan now and projecting forward, how can Womanity optimise impact? The roadmap presented in this report outlines a renewed mission, strategy, programming parameters, potential partners and learning agenda.

- 1) The Womanity Foundation should continue GCC programming (with the scale and size allowed by its resources), while in parallel foster education-to-employment pathways for a polycentric network of students and graduates.
- 2) Womanity can extend its impact through partnerships, and should look for potential partners with two-way value add along four major lines:
 - a. Ecosystem partnerships with Afghan female empowerment actors;
 - b. The private sector;
 - c. The government;
 - d. Bringing in disruptive media expertise.
- 3) The programme's future monitoring, evaluation and learning agenda should be based on rolling analyses given the fast-moving context.

Through long-term, targeted and tailored interventions, the GCC programme will build a network of resilient Afghan girls and women, acting as changemakers in their lives and other people's existence.

Acronyms and abbreviations

CS	Case study
FGD	Focus Group Discussion
GCC	Girls Can Code
ICT	Information Communication Technology
IT	Information Technology
KII	Key Informant Interview
LMA	Labour Market Assessment
MoE	Ministry of Education (Afghanistan)
STEM	Science, Technology, Engineering, Mathematics
Tech	Technology



Front cover photograph: Girls Can Code classes. Farzana.²

² Report photographs by Farzana; or Samuel Hall (Saida, Nicholas or Haroon).

GCC Afghanistan: 2016-2019, and beyond

The Womanity Foundation works on gender equality and female empowerment globally, and has been working in girls' education in Afghanistan since 2007. After four years of implementing the female education *Girls Can Code Afghanistan (GCC)* programme, the organisation collaborated with Samuel Hall in order to evaluate the outcomes of GCC thus far, and determine how Womanity could optimise its impact in female education and employment in Afghanistan moving forward.

GCC grew out of *School in a Box*, the Womanity Foundation's project that prepared fifteen girls' schools in Afghanistan to become models for girls' public education across Afghanistan by supporting teacher and support staff training, providing physical education methods and enhancing school facilities.

Figure 1 School in a Box laboratories still used in GCC schools



Pivoting away from a general improvement of school infrastructure towards a targeted technical training approach, GCC was designed in response to labour market assessments pointing to the growing importance of technology in the Afghan economy. Through a focus on tech, the goal is to challenge entrenched gender stereotypes on female abilities and career paths, while also giving female participants the possibility to sidestep these stereotyped obstacles by giving them an opportunity to work from home with digital skills.

Today, GCC is implemented in four girls' high schools in the capital city of Kabul. It focuses on teaching high school girls coding, computer literacy and English. These courses are not part of the core education curriculum for high school students, but instead offered as an extra-curricular programme either before or after class.³ GCC adapted its programming after the first year pilot, adding English in Year 10 and introduction to IT in Year 11 before the Year 12 Coding and Web Development course. Further adaptations have included further emphasis on finding and incentivising internships; soft skills workshops; role model meetings; parent meetings; and scholarships for high-performing students admitted to computer science undergraduate degrees to help with university fees.

The GCC programme takes place in and seeks to address a context characterised by major obstacles for Afghan girls and women in search of sustainable and socially acceptable livelihoods. The Afghan economy continues to struggle with conflict, drought, corruption and political uncertainty limiting

³ While not part of the core school curriculum, GCC is still attached to public girls' high schools in Kabul that had relationships developed in the *School in a Box* programme (2007-2014).

inclusive economic growth and employment opportunities.⁴ Girls and women are particularly disadvantaged: only 17% of females aged above 15 are literate⁵ and 2.2 million girls are out of school.⁶

In such context, today's growing movement in Afghanistan and internationally to increase female engagement in STEM may seem counter-intuitive. In fact, Afghan girls' interest in new technologies is remarkable. In most OECD countries, women make up approximately 30% of the workforce in the area of Science, Technology, Engineering and Mathematics (STEM). In Afghanistan, according to USAID,⁷ about 100,000 Afghan women are currently enrolled in public and private universities, which is equivalent to about one-third of all college students. About 40% of these Afghan women pursue STEM-related fields of study, which shows the remarkable enthusiasm of young Afghan girls and women towards science and technology. The Afghan government has therefore identified technology as key in service delivery, and is keen to have more women employed in the sector.

Organisations including Afghan Girls in ICT, TechWomen Afghanistan, Code to Inspire and the Digital Citizen's Fund are working to harness women's potential to be economically active in the tech sector, to the benefit of themselves, their households and the economy as a whole. The Womanity Foundation's Girls Can Code programme is part of this growing movement to engage and empower girls in tech and STEM more broadly. The goal of this study is to examine, and find ways to sharpen, GCC's impact on young women in Afghanistan.

Figure 2 Maximising impact in girls' and women's lives. A GCC student developing web pages.



⁴ World Bank, 2019, Afghanistan Facing Strong Headwinds to Growth

⁵ UNESCO, 2011, Global Age-Specific Literacy Projection Model (GALP) - Afghanistan

⁶ UNICEF, Afghanistan Ministry of Education and Samuel Hall, 2018, Global Initiative on Out of School Children – Afghanistan Country Study. Based on CSO statistics.

⁷ <https://www.usaid.gov/afghanistan/education>

Evaluation of GCC from 2016 to 2019

There is strong qualitative evidence that the GCC programme plays a very positive role in the life of Afghan girls (and their families), thanks to the quality of its pedagogy, organisation, and communication. Post-GCC employment rates remain low for targeting and contextual reasons.

- The Girls Can Code programme has been **well-implemented**. Pitfalls often observed in similar endeavours have been largely avoided, with GCC displaying **high levels of student and alumnae engagement, rigorous teaching, strong organisation and concerted communication** with relevant stakeholders.
- Positive outcomes were observed in **perceptions of girls' tech abilities**, both among GCC students themselves and their social ecosystem more broadly. A number of GCC graduates are pursuing **computer science university degrees as a result of the programme**. The GCC skills and competencies are also important in other career pathways. Anecdotal evidence also suggest other positive unintended consequences, including psychosocial (self-esteem, self-confidence, trust) and societal (gender relations, perception of girls and women) aspects.
- **Although Womanity reached its targets for students' placement in internships, rates of immediate participation in the labour market remain low**. Reasons include different priorities of GCC students and alumnae (namely to continue with university studies before entering the labour market); the high expectations of local tech companies in Afghanistan with a strong **preference for university graduates; and structural barriers to employment**.
- Although it was not an immediate objective of the GCC programme, Womanity envisioned that **training in tech could allow for remote working**, thus overcome some of the structural barriers to female employment in Afghanistan. This evaluation found that remote working is still a novelty in Afghanistan (and more broadly). Although there may be further **opportunities in remote work, enabling these pathways would require increasing technological access** such as through providing beneficiaries computers and internet at home.

The stated goal of Girls Can Code (GCC) from 2016 to 2019 was to:

Prepare girls in grades 10 to 12 with the skills and competences they need to advance in their professional and academic careers, enrol in STEM faculties and enter Afghanistan's labour market (in particular in the Tech sector), becoming role models for their peers and the generations to come.

After four years of GCC, to what extent has this goal been met? What has the experience and the outcomes been for the approximately 350 girls who have passed through the GCC course? The evaluation component of the research sought to understand the programme's outcomes, the programmatic challenges faced, and how these might be overcome. At the same time, the evaluation component was embedded in the overarching research questions pertaining to context and strategy.

The goal was thus not only to identify successes, problems and short-term fixes, but also more broadly to evaluate whether the GCC model is in line with Womanity's goals to optimise their impact in transforming female lives in Afghanistan.

Multidimensional positive outcomes

The GCC programme has created tangible positive outcomes in education pathways, potential future employment, and the attitudes of female participants and their families.

Computer Science pathways. Multiple concrete examples were found of GCC students choosing to pursue computer science studies at the university level. Most of these decisions on further studies are directly attributable to the GCC programme. Womanity's 2017 alumnae tracking data showed 82 alumnae enrolled in university studies, and of these, 15 were enrolled in computer sciences - almost 1 in 5. The trend of high enrolments of girls into computer science undergraduate studies is continuing through 2019, with expanded numbers of alumnae from the 2018 graduating round, and current 2019 GCC students already pursuing or resolutely expressing intentions to follow pathways into computer science because of GCC.

Many of the girls were planning on studying in another field at university, including medicine, business, or journalism. The increase in computer science students is aligned with the stated GCC goal of emphasising the tech sector, but might draw these students away from other pathways. However, global evidence offers compelling reasons for fostering female Afghans' participation in the tech sector.⁸ These include a change in perceptions of girls working in tech, which opens up hitherto closed fields moving forward, beyond the narrow pre-defined occupations currently considered socially acceptable. Additionally, GCC does not so much "channel" students into tech as it equips girls with the skills and aptitude to make choices.⁹ With continued employment opportunities for computer science graduates, there is strong potential for these alumnae to find employment after graduation in the medium term, relative to other sectors with less growth potential.

GCC ALUMNA CASE STUDY

A GCC alumna whom Womanity assisted in completing an internship, and who is now studying computer sciences at a private university, exemplifies some of the positive outcomes associated with the programme.

"I completed 3 months of internship at Serve Afghanistan. I worked as an IT assistant. During this internship, I learned more about networking. I learned to solve problems regarding hardware and software, and also what caused these problems in the first place. I have mastered the office package, and I worked in network and internet. This internship has helped me determine my area of study, because they gave me the ability solve some problems of my classmates. I was an intern in an organisation with foreigners, which helped my social communication skills. This internship was extremely good for me.

In the future, I would like to study in the departments of IT, software engineering, and information systems in the Computer Science Faculty of Kabul University. After graduation I want to work as an officer in the Serve Afghanistan organization. They promised that I will be able to continue the work started during my internship, or perhaps I will work at the Serve Afghanistan security office. In the future, I would like to succeed in line with my aspirations... Most of our people just dream, but I want to achieve my goals."

⁸ UNESCO, 2017, Cracking the Code: Girls' and women's education in science, technology, engineering and mathematics (STEM). Contains numerous benefits of female participation in tech and STEM more broadly.

⁹ Amartya Sen, 1999, Development as Freedom.

Teaching essential tech and computer skills for all sectors, not just computer science. GCC alumnae following computer science pathways into tech are not the only ones to benefit from GCC programming. Primary research participants identified computer skills and technology as increasingly important for many career paths and employment sectors. A Pashto language student expressed that GCC allowed her to write and publish writing and poems online, and a future doctor pointed out that it allowed her to connect to others in her field:

“In the future, I want to have my own hospital or clinic so I can help people. Through the skills obtained through GCC, I can connect to hospitals around the globe. Using computers and the internet, I can conduct research on different diseases.”

- Medicine undergraduate GCC alumna, FGD6

Current students agree, noting that the skills obtained through GCC would be valuable in whatever field they are aiming to pursue.

“I want to study political science. After graduation, I would like to get involved in research and economics. Computer and coding skills are required in every field. GCC would help me a lot - computer skills and knowledge of programmes such as Excel are required for an economist.”

– Current student at Wahdat High School, FGD4

This opportunity for girls to deepen their skills is especially pertinent considering that GCC is free, in a society where many girls’ families do not have the financial means to send their daughters to private courses.

Broader range of outcomes, graduates as multipliers. Almost all research participants directly discussed how GCC raised their feelings of self-worth, self-efficacy and self-confidence. Current GCC students and alumnae also talked about how they help their friends, peers and family with computer and IT issues. GCC alumnae studying computer science now actively teach their peers coding and web development skills.¹⁰ This is directly aligned with GCC’s goals regarding GCC participants *“becoming role models for their peers and the generations to come.”* The GCC students and alumnae indicated GCC participation had changed the perceptions of their parents, siblings, neighbours and peers on female abilities to use technology and computers.

¹⁰ Statistical breakdowns by gender on the number of computer science university students and graduates were difficult to ascertain. Stronger tracking data with the help of the MoE and MoHE, even if just from the major universities in Kabul, will help situate the GCC better in terms of comparing student outcomes. It would also represent further opportunities for connections and programmatic assistance for female computer science students.

Programme implementation

The GCC programme is well implemented and has proved meaningful and adaptable. Pivoting into technical and vocational training in 2016, the Womanity Foundation has built a strong set of programming with GCC. The high expectations and implementation rigour¹¹ by the Womanity team has meant that the programme is well run, without haphazard classes and low engagement. Female participants and parents alike reserved praise for the GCC's educational rigour and high programming quality. The GCC trainers are well respected, acting as role models to the GCC students themselves.

The Womanity Foundation has maintained a good working relationship with the Ministry of Education (MoE) and with the four Kabul girl high schools GCC is implemented in. Two principals who participated in key informant interviews spoke favourably of the GCC programme and Womanity, which has been a valued partner not only through GCC but also, and just as importantly, through the previous School in a Box/AGEA programming and the development of school facilities.

GCC has proven to be adaptive in its programming in a number of respects:

- **Preparatory English in Year 10 and Introduction to IT in Year 11.**¹² This increased English language skills, deemed necessary both for learning coding itself as well as for jobs using IT skills. GCC also added basic computer literacy - including Microsoft Office Package and introduction to computers - to prepare students who may not have had high exposure to computers previously for the more advanced coding classes.¹³
- **Soft skills workshops.** In order to improve girls' prospects in the labour market post-GCC, the programme was amended to include the following: Creating email addresses, workshopping curriculum vitae, and preparing for interviews.
- **Meetings with role models.** This is usually women working in the tech sector (such as Shabana Mansoor, Founder of Afghan Girls in ICT), both in-person and online. This received positive feedback in FGDs. The idea behind the role model meetings was for GCC students to meet women using tech skills, see first-hand that IT was a potential career pathway and be inspired by sharing stories and hearing from women following their passion and aspirations.
- **Scholarships for high-performing alumnae undertaking computer science studies.** Womanity noticed that promising students could not afford private university fees.¹⁴ Thus, to strengthen impact, GCC added scholarship funding in 2019 for high performing computer science undergraduate students to support them to pursue their education and career in IT.
- **Advanced winter training courses.** Winter training courses commencing in 2019 planned to go deeper into select subject areas taught in the GCC classes.

¹¹ This includes in enforcing high expectations and standards on trainer performance, educational materials, and the class attendance of students.

¹² The Womanity Foundation added Year 10 English and Year 11 Introduction to IT after the first year pilot

¹³ Womanity also offer *kankoor* exam preparation workshops (the university entrance tests in Afghanistan). The workshops are open to all students in schools that GCC operates in, considered part of holistic school strengthening.

¹⁴ Many GCC students struggled to meet the highly competitive *kankoor* exam marks to enrol in the Faculty of Computer Sciences at public university. GCC students who wished to pursue further studies in computer science have to enrol into private universities as a back-up, which charge fees.

- **Additional, tailored support** include covering the ancillary costs of transport to and from internships; and ongoing communications with sceptical families in regard to internships such as encouraging families to visit internship workplaces.

This adaptive and reflexive programming demonstrates Womanity is agile and responsive to the on-the-ground concerns, instead of being overly rigid in their education intervention. This is a key strength.

Labour market participation.

Between 2016 and 2018, 355 students completed the coding course. Of them, 99 students showed interest in applying to internship positions and 25 positions (internships or short-term jobs) were filled, thus enabling Womanity to exceed Womanity's initial target of 20% of positions secured for interested students with an achieved rate of 25%.¹⁵

Although the internship target was achieved, the GCC programme experienced a labour market misalignment to its objectives both at the labour offer and demand side, and importantly, Womanity sought to expand its impact beyond the promise of an internship position. This included aligning both the labour offer and demand, and to enable enhanced and more stable access to the labour market for GCC beneficiaries.

In this regard, the study identified three main findings that confirm Womanity's experience:

Focus given on *kankoor* and university studies over internships by some GCC graduates: Some participants are indeed reluctant to take on full-time internships at a time when they prefer to focus on either the *kankoor* preparation or their university studies, eschewing the potential benefits of an internship for future career progression.¹⁶

Parental and student concerns around security, transportation and the work environment: GCC students and parents alike shared concerns over the safety of internships and eventual work in offices. Widely cited concerns were on the security situation and terrorist attacks in Kabul and harassment outside of the home, either on transport, on the street or in the workplace.

"We have many social problems in Afghanistan... There are suicide attacks in Kabul and because of our own financial problems, my daughter gets [public] transportation. If she comes home late, I get worried and I call her number many times." - Father, CS1

"I cannot go outside to work because the security situation is unstable, and there are many bad people." - Alumna, FGD5

¹⁵ Womanity's initial target was to secure internship for 20% of the student population. This target was later revised as 20% of the students who apply for internship positions. Furthermore, 25% is calculated as number of positions occupied divided by the number of students who applied. However, data can be looked at in different ways: if we consider open positions, this represent 27% of candidates who applied (a few positions were not taken by students). If we consider the number of students who did an internship as compared to who applied, the rate is 23% (a few positions were occupied by the same person).

¹⁶ *Most of the girls drop the classes because of their university exam preparations, since it is difficult to have all the classes at the same time. No one dropped out during the ICT year, but many did the year we studied coding."* - Current student, Wahdat High School, FGD4

Pipeline issues and mismatch between employer expectations and high school target group. Afghan tech employer needs are not well aligned with the current target group of high school students. Many companies deem taking on an intern this young an arduous use of scarce time and resources. Key Informant Interviews with Afghan technology companies revealed that they usually require a Bachelor Degree, higher level specialised skills that cannot be taught in 3-years of after-school programming at the high school level, and job experience.

“Netlinks always prefers to balance gender equality. However, we rarely come across women that have the specific skills that are needed by Netlinks. Even if they are beginning as an intern, it’s difficult.” – Netlinks¹⁷ Project Manager

“Wherever I apply somewhere, and I say that I am 12th grade graduate, they don’t give me a job.” – Alumna, FGD5

The graduate reservations and employer reluctance are both linked to the fact that the GCC programme currently focusses on the high school level of the tech/STEM pipeline.

Figure 3 Womanity's work in the tech/STEM pipeline



Many of the students aspiring to attend university to qualify for working in high-skilled occupations will thus face a lag period before the impact of GCC manifests itself. An eventual pay-off could be tracked over the coming five to ten years. Conscious of this misalignment and in line with its adaptive approach, in 2019, The Womanity Foundation has started to extend the support by offering university scholarships, ongoing further support and internships. This is in line with what GCC participants and many other Afghan high school girls and women in universities want: Employment pathways.

“Now our request is job opportunities for girls. Every organization asks for work experience. If we don’t work, how are we going to get work experience?” – Alumna, FGD5

Working from home

With the GCC programme, Womanity cultivated the idea that the tech sector is one among the few that can enable remote working, thus potentially overcoming some structural barriers to female employment in Afghanistan. Although it was not an immediate objective of the GCC programme, Samuel Hall investigated whether this represented a realistic opportunity for GCC beneficiaries and what it would entail to become possible.

¹⁷ One of the major technology and IT companies in Kabul.

Working from home is a novel approach in Afghanistan and beyond, however a few companies outside of Afghanistan have confirmed that they would be open to employ Afghan women remotely if they meet the necessary qualifications (and, with few exceptions, a bachelor degree is usually one of these), and if they have the necessary tools and equipment - mainly computers and reliable internet connections. Working remotely either as employees or freelancers appears to represent a potential income pathway for Afghan females.

However, it has to be noted that many of the GCC participants lack the appropriate facilities such as a computer or laptop and access to stable internet to be able to work from home. This also impacts students' abilities to practice digital skills learnt during the course. Parents can be restrictive on their daughters' communications, including on social media and with mobile phones. Teaching girls web-based skills if they do not have stable access to the internet severely limits the sustainability of the GCC programme.

"I request NGOs to help us with the equipment for my field, computer science, whether personally or through my university. This will help us learn more practically, which leads to a job..." – Alumna, FGD5

"Most of the students have financial problems in their family and it will be better to give each student a laptop so that they could practice their lessons in their homes. Currently my daughter goes to our neighbour's, she practices her lessons there. But not all girls can do this." – Father, CS1.

Furthermore, there remains a recognisable ambivalence on working from home vis-à-vis an office environment. Parents generally appeared more conservative and in favour of their daughters working from home, citing the insecurity of terrorist attacks and crime, issues on transport, harassment and unsafe office environments as reasons.¹⁸ GCC female participants' attitudes were more mixed. They pointed out that working outside of the home would present learning and career growth opportunities, and also discussed the social aspect of not having to stay at home. Both parents and student/alumnae participants pointed out the potential in women being able to work from home alongside family duty expectations, which are quite rigid in Afghan society, even in the more socially liberal environment of Kabul. Safe spaces were a common theme.

Working at home or working in offices

"In the current condition of Afghanistan, working from home is very beneficial. At home we are safe and we can work productively. At the workplace girls face negative behaviour, poor work conditions and moral corruption. I would like to work from home, and be independent and comfortable. My family has no problem with my work. Through GCC and my university studies I learned to design and develop websites from home." – Computer Science undergraduate GCC Alumna, FGD6

¹⁸ The parents in FGD8 (mothers of Al Fath High School students or alumnae) especially were mostly against their daughters working outside the home at all, which also displayed the difficulties in girls accessing internships or paid employment in offices. The FGD included two teachers and three housewives.

“Working in an office is more effective, and it is different than working from home. Working in an office, we can develop self-confidence, work more, build social relations, and learn from people who work with us.” – GCC Alumna, FGD5

“I prefer working in an office – there, I do not face any restrictions. I want to be in the community and learn from others. But GCC has also given us the capacity to work from home. I myself worked from home in the 3 months of winter to develop a website, and then I sold it. I worked in a group. We developed this website for a small company, and we were a group of 6 people. Each of us received 15,000AFN. It was a website for a small wheat processing company.” – GCC Alumna, FGD5

The GCC alumnae who developed a website for income were one tangible example of the difference GCC has already made in the lives of participants. It is also an example of the future potential of Womanity’s activities. Harnessing the potential to work from home, balanced with the desire of many of the participants to access safe employment opportunities in Kabul, can be built out and extended. This will be further explored in the strategy section.

Figure 4. GCC beneficiaries learning tech skills



Context and market analyses

In a worsening political and economic context, the tech sector holds a significant labour market potential for the new generation of young urban women

- **Structural barriers to further education and employment** are prominent for women and girls, especially restrictions imposed by (many but not all) families.
- For girls who are allowed to pursue a livelihood, there is a **deeply ingrained preference towards a small number of specific professions**, usually in medicine and teaching. With the exception of medicine, STEM-related fields are perceived as male-dominated domains unsuitable for women.
- **The overarching context is in flux.** The pendulum could swing either way in the coming years, both positive in a trend towards openness for women to work in tech and more generally, but also towards a possible stark deterioration linked to increased insecurity, economic troubles and policy change in the event of a peace deal with the Taliban.
- The **tech sector holds labour market potential**, both in Kabul and remotely. However, there is a **misalignment between current programming and direct income streams** for GCC participants.

Broader Afghan context of GCC

The following structural challenges are relevant to female education and employment. It is of note here that the GCC target group of urban middle-class females is usually already integrated into society (in contrast to high numbers of internally-displaced/recently returned families), and are allowed to attend both school and the GCC programme. They are thus not representative of society as a whole, but could serve as role models for others.

Social-cultural barriers: Afghan girls and women face restrictions on their choices and agency. Families, usually a female’s father, brother or husband, are important constraints for many. Television tends to reinforce stereotypical and conservative views on women’s roles in society. There are not many female role models in tech or STEM more broadly. This titbit of common wisdom is both reinforced and nuanced by the primary research for this study.

“My brother is not allowing me to continue with my higher education, he says “what do girls have to do with university?” - GCC Student, Pilot FGD

A focus group discussion with parents reiterated many of these restrictions but also highlighted the potential for change. Mothers and fathers of GCC students and alumnae spoke of their fear of relatives talking behind their backs about their daughters working in technology, hurting the family’s honour.

Fears were voiced about the security situation in Kabul and the safety of their daughters while travelling or at work. Respondents put forward views about how women should avoid men in workplaces. At the same time, mothers sometimes dream that their daughters could become well-educated, gain secure employment, become independent and end the long-running poverty in their family.

“I would like my daughter to study, improve, progress in future, and build her life, not to remain uneducated... We tried our best, but an illiterate person like me does not know anything... My husband works and tries hard so that my daughters can become teachers, so we can end poverty in our family. They must study and work, and must become independent and not become like me.” - Mother, FGD8



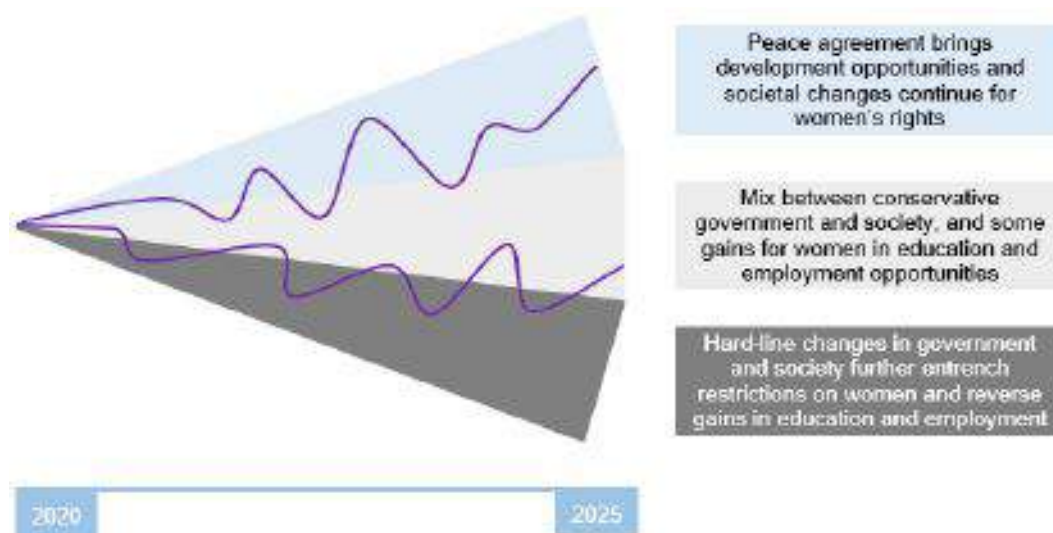
Figure 5 Mothers of GCC participants speaking about the aspirations of their daughters in a focus group discussion



Figure 6 A GCC student fills out an influence map in a focus group discussion

A weak labour market. Overall economic conditions in Afghanistan remain poor, with severe obstacles to growth including prolonged drought in 2018 and business and investor confidence significantly deteriorating due to ongoing insecurity and political uncertainty.¹⁹ Labour force participation for young women is especially low, and 80% of Afghan women are estimated to be out of the workforce across the country.²⁰ However, discussions with tech companies, government officials and the Womanity Foundation Afghanistan team provided examples of young skilled or highly skilled urban women finding employment with relative ease, including in the formal sector. Computer Science graduates were said to be in particularly high demand in Kabul, finding jobs in the private sector, with NGOs, international organisations, or governmental agencies. This contrast reflects the two-speed economy in Afghanistan, where poverty rates in rural areas have steadily increased, while what little economic growth and jobs gains (especially for women) there are, is usually concentrated in urban areas such as Kabul.²¹

Figure 7 Potential changes in the Afghan context for female education and employment.



The scenarios are examples, and in reality, will not be so clearly mutually exclusive. They are intended as summaries of potential changes in upcoming years. The purple lines represent examples of GCC graduates experiencing ups-and-downs in terms of career pathways and social connectivity under differing future contexts in Afghanistan.

A volatile security situation. While city centres are relatively less exposed to the current uptick in violence, it is difficult to predict what could happen in the next 6 months to 2-3 years. If the Taliban gain political traction, they might discourage girls from attending higher education or TVET classes, or decide to put an end to any activity run by international NGOs.

¹⁹ World Bank, 2019, Afghanistan Facing Strong Headwinds to Growth

²⁰ Archer K, 2019, Inside Afghanistan: Job Market Outlook Bleakest on Record, Gallup. NB: Much of this high percentage would be women in rural areas without the opportunity to work.

²¹ Islamic Republic of Afghanistan, Ministry of Economy and the World Bank, 2017, Afghanistan Poverty Status Update: Progress at Risk

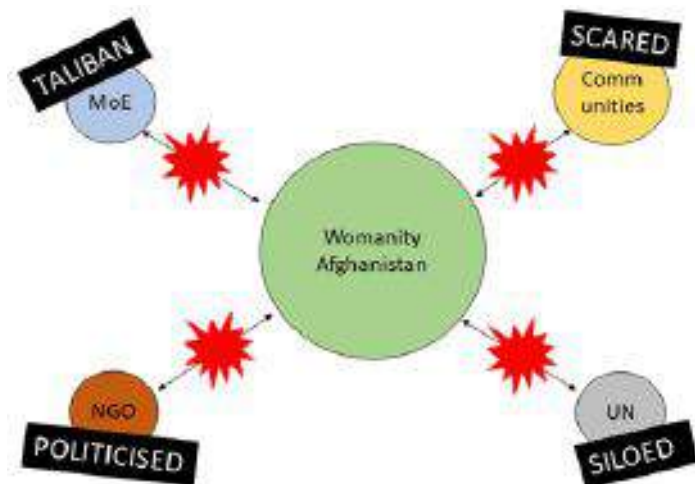
Should the security situation continue to deteriorate further,²² with attacks reaching relatively “safe” neighbourhoods, even parents who support GCC might be reluctant to send their daughters to school due to perceived/actual risk on the way to school, on transportation, and because of harassment/abuse.

Figure 8 Kabul in 2019. Yet another period of high uncertainty in Afghanistan



Changes in the stakeholder landscape of Womanity counterparts. The Womanity Foundation works with local NGOs, government ministries, UN agencies, and communities. The Ministry of Education may become more restrictive and conservative in their policies and support for female education. NGOs may become politicised leading to turnover or reduced footprint and parameter. UN agencies might become siloed. Finally, the type of narrative needed to convince communities to send children to school could change.

Figure 9 Potential changed context for Womanity and GCC Afghanistan



²² See in particular the UNAMA report *Afghanistan Annual Report On Protection Of Civilians In Armed Conflict: 2019*, Kabul, February 2020. In 2019, UNAMA documented 10,392 civilian casualties (3,403 killed and 6,989 injured) as a result of the armed conflict. Since UNAMA began systematic documentation in 2009, it has documented more than 100,000 civilian casualties, with more than 35,000 killed and 65,000 injured: “The impact of the conflict, however, goes well beyond the numbers, taking into account the extensive and durable harm caused to the physical, mental, social and economic well-being of individuals, families and communities.”

Technology retains promise for female employment pathways

The Womanity Foundation designed the original Girls Can Code programme in-part based on labour market assessments that showed a promising outlook for jobs in technology in Afghanistan. Despite the findings related to labour market response to GCC graduates detailed in the evaluation section²³, the technology sector in Afghanistan still shows that original promise looking forward from 2019. Fears that there may not be demand for coding and web development skills (meaning GCC would raising unrealistic expectations) appear unfounded. A rapid review and discussions with actors in technology, both in Afghanistan and internationally, indicate that there will continue to be demand for these skills for the foreseeable future.

- Tech as a sector should continue to grow despite broader economic malaise in Afghanistan. Increasing opportunities to work with computer-related skills (both freelance and through international organisations) also exist internationally.
- There remains ongoing government emphasis and interest in expanding technology and supporting the tech sector.
- Tech as a cross-cutting skill is becoming ever more important across employment sectors in Afghanistan.

Positive outlooks in the Afghan tech sector. The overall outlook of private technology companies is positive, with most of the Kabul companies positing a desire and a need for technically skilled employees. Out of the approximate dozen organisations focussing on technology that took part in the rapid labour market assessment, only one had a very poor outlook for their company and the sector, one had an average outlook, with the remainder largely positive about future growth and employment potential.

If a woman has the skills, understands the technical side, there is a lot of demand in the market for her. - Techsharks Business Development

I think in the coming 3 to 5 years [the tech] sector will grow well... because Afghanistan needs it. - Afghanistan Holding Group Chief Technology Assistant

On the labour market side, I definitely see good demand in upcoming years. Especially in the technical labour market, IT being one of them. - Netlinks Project Manager

In spite of the broader economic issues in Afghanistan, one of the major original premises thus remains valid: focusing on technology can provide opportunities for women to find meaningful employment and income in either the tech sector itself, or in places where English and computer skills are in high demand (such as international organisations or governmental agencies). While the sector, like all others, is not immune to the problems facing the overall economy, it provides a niche for women employees which holds more potential than most.

²³ Mainly an issue in the misalignment between the high school target group and high, technical skill requirements by tech companies.

Positives of the tech sector for Afghan women

In addition to robust prospects for employment, technology and ICT offer other advantages for education-to-employment pathways for women in Kabul. Ingrained stereotypes on women's abilities persist, and even the more gender progressive organisations have glass ceilings for women's advancement. A tech company employer discussed how women should not be hired in hardware or network installation, while software and web development were deemed acceptable. The second example was the representative of a company focussed on gender progression in tech discussing candidly how barriers against women being able to work late (including family constraints and transportation) meant that no women occupied executive roles. However, Afghan tech employers on the whole said they were quite **receptive to women working in the tech sector**, and that gender stereotypes could actually work in women's favour in that they were sometimes deemed more diligent and better at graphic design for web development in comparison to men.

At the same time, tech and ICT has **transformative power** for perspectives of women. It is still considered a male-dominated domain (like almost all professions outside of traditional female activities such as embroidery, teaching, and to a lesser extent, the medical fields), so female entrance and progression in tech represents an opportunity to challenge gender stereotypes and change perspectives on women's abilities. Labour Market Assessments that focus on where women are currently employed, or where employers say they are open to hiring women, run the risk of confining women to certain professions such as beauticians or tailors. This is especially pertinent given the target audience of Womanity – ambitious high-achievers who intend to progress to university.

Technology cross-cuts with other professions. This was also demonstrated in the evaluation where GCC students and alumnae discussed how even if their chosen pathways were into politics, medicine or other fields apart from computer sciences, having deeper knowledge of computers and the internet was still considered important.

Technology as the network platform. Finally, technology and ICT offer an actual means of connecting with wider networks, including international work opportunities that would not otherwise be available, through a focus for instance on engineering or other domains beyond the traditional "female" realm.

Overall, there is ongoing uncertainty surrounding the direction Afghanistan society will move, including with ongoing disputes in the 2019 election with echoes of the high tensions in 2014, as well as the peace process involving the Taliban experiencing daily changes. The security, economic and socio-cultural context that GCC is operating within in Kabul could consequently change drastically. Regular context analysis, including the status of important actors (such as the MoE), girls' schools and GCC participants' families should inform the extent and breadth of GCC programming.

2020-2025 Roadmap

The Womanity Foundation is cognizant of the complex situation in Afghanistan for female education and employment pathways, and are looking for ways to maximise their tangible impact in girls’ and women’s lives in the long term within this context. Beyond 2020, the Womanity Foundation want GCC to have demonstrated impact in Afghan girl’s and women’s lives, including in their education, well-being and economic empowerment through income. Based on the evaluation of the GCC programme between 2016-2019, including the positive outcomes and challenges; the changing context for women in Afghanistan; and mapping potential partnerships, the strategy section outlines what this impact can be and what a case management approach on-the-ground could look like to accomplish this.

GCC has solidified its programmatic credentials and already created value in the lives of Afghan girls and women and their families. However, tracking the growing number of alumnae is challenging, and there are missed opportunities in terms of connecting GCC participants with longer term economic opportunities. Based on the 2016-2019, key strategic issues have thus been identified:

- **Vision:** How can the Womanity Foundation develop long-term goals and objectives in an environment defined by its uncertainty and rapid changes?
- **Programme:** How can the Womanity Foundation make sure that GCC is flexible enough, resilient enough, to operate in a volatile security and political environment for NGOs, in particular those working with girls?
- **Evidence:** How can the Womanity Foundation deliver services and optimise impact among its beneficiaries while providing evidence that it did so?

This final section of the evaluation provides with a detailed 2020-2025 roadmap for Womanity and its innovative flagship GCC programme – starting from the mission statement and strategy to the more specific operational aspects of programming, partnerships and learning.

Figure 10 A 5-year strategic roadmap



Mission



At a time of uncertainty for Afghanistan, Womanity aims to build a resilient network of Afghan women driven by a common passion for technology, entrepreneurship, and new ideas

Given the tension, observed in the *Context and Market Analyses* section, between a worsening political and economic context *and* the existing potential of the IT sector for Afghan girls, Womanity should adapt its current approach, while building on its positive achievement. In this regard, the 2020-2025 should promote a societal impact and use the GCC programme as a means to a broader end: the development of a resilient network of Afghan girls and women who will be tomorrow's agents of change in their country.

To do so, the Womanity Foundation should continue to focus on technology in Afghanistan, as a niche point-of-differentiation that can have long-term ramifications in girls' and women's lives, and contribute towards transformation in the larger Afghan society. In addition to that, however, the GCC programme will also need to provide responsive support in career pathways to the next cohorts of GCC students and help them generate income streams and personal contacts both in Afghanistan and internationally through the contribution to an authentic network of students, technical experts, entrepreneurs, coders, and private sector actors.

At a time of political uncertainty and possible unrest, a resilient network of like-minded Afghan women might contribute to rebuilding the country when the political situation gets better, because they will be in touch with each other and because they will have communication with the outer world.

Strategy



While building on the strengths of the ongoing GCC programme, it is recommended to develop a polycentric approach to provide Afghan girls with an access to a safe, sustainable, socially rewarding, and income generating local and international professional network.

Based on the 2020-2025 Mission statement, it is recommended to:

- Consolidate the existing GCC programme – targeting young girls through a three year triadic approach English / IT / coding – as it has a positive impact on young girls in direct (intellectual curiosity, basic marketable skills) and indirect (self-confidence, teamwork) terms. The positive social outcomes of the programme as it is today definitely outweigh valid criticism on its lack on economic impact. This traditional wing of the GCC programme may be adjusted or

improved marginally, but it seems to be remarkably efficient and effective, given the context; so, budget and security permitting, it is recommended to confirm the programme as it is for the next 5 years.

- Develop and sustain a network of young GCC “senior” students with more advanced and marketable skills to progressively build a local platform of knowledge, business and friendship, and contribute to the wider international GCC network. This network of alumnae interested in benefitting from an advanced GCC programme, would adopt an innovative pedagogic and participatory model – the *polycentric model* detailed below. Between 40-50 students per year²⁴ according to the following criteria: interests and intellectual curiosity; technical capacity; and willingness to contribute to the local and international network. It should be noted that this complementary component of the GCC programme would have strong societal outcomes, at a time of great political uncertainty in Afghanistan.

Consolidating the existing GCC programme

As detailed in the qualitative evaluation, there is no doubt that the current training plays a positive role of building, at an early stage of school education, a culture which opens access to the potential of the ICT and STEM sector and related fields. It equips its beneficiaries with basic coding skills, reinforces their English level and acts as a boost of self-confidence. However, due to the young age of the beneficiaries and the limits of the curriculum to meet the professional requirements of the local ICT sector, the program is falling short in bring access to the labour market to the target group of beneficiaries, which is also an essential objective of the programme. Consolidating the already successful GCC initiative while complementing it with a more advanced component would definitely multiply the positive outcomes of the overall GCC architecture. In this regard, the polycentric model, depending on the resources available, is not mutually exclusive with the traditional approach still promoted today by Womanity; by contrast, the former would strongly benefit from the achievements of the latter and may help adjust the curriculum and objectives of the traditional GCC programme, thanks to its contact with the local labour market and direct exposure to international stakeholders. The exact number of beneficiary students, the number of partnering schools, may be subject to change in the coming years, depending on the security context as well as Womanity’s resources.

Developing a Polycentric Network Model

A polycentric model ‘implies societal choices and provides a *vision of the world* as an integrated *set of levers*’.²⁵ According to Andersson and Ostrom (2008), ‘it is a system that is structured so that actors within the system are given opportunities for institutional innovation and adaptation through experimentation and learning.’²⁶ In the context of Afghanistan, characterized by a worsening security

²⁴ This number was validated in a workshop held in Dubai in November 2019 with the Womanity team, after a discussion on: 1) actual number of GCC students per year; 2) proportion of students potentially interested in more advanced training courses; 3) number of students who may actually attend a longer-term remote programme focusing on coding, business, entrepreneurship, etc. given today’s context.

²⁵ Gilbert, A. (1986). *L’idéologie spatiale; Conceptualisation, mise en forme et portée pour la géographie*. « L’Espace Géographique », 1, 57-66.

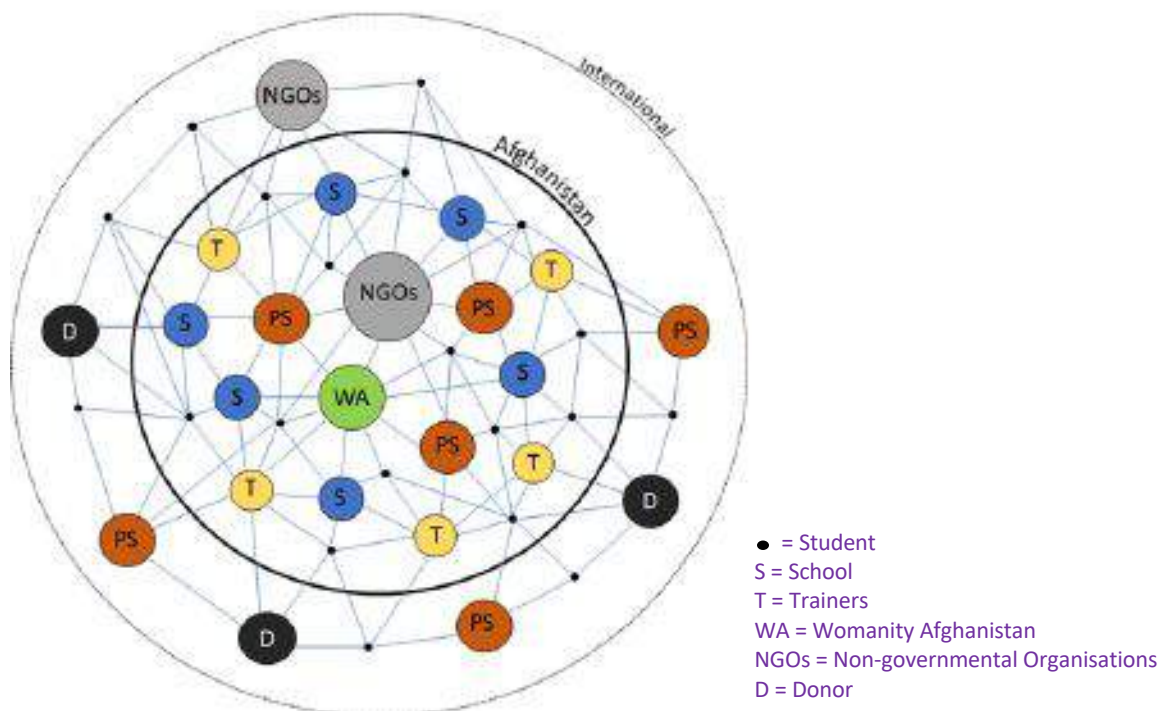
²⁶ Andersson, K. and Ostrom, E. (2008). *Analyzing Decentralized Natural Resource Governance from a Polycentric Perspective*. Policy Sciences 41(1):1-23.

context and structural barriers to women’s access to the labour market, a polycentric network would help: 1) mitigate security risk; 2) decentralize decision-making processes; 3) increase girls’ agency through individualized approaches; and 4) generate nodes and ties with the outside world, hence maximising business opportunities and technical developments. In practice, applying a polycentric model to the GCC programme would result in:

- **Creating an operational structure for girls to become connected to trainers, facilities, NGOs, and the Womanity Foundation from the safety of their homes.** It mixes remote and direct physical platforms, with the objective of breaking student isolation through the increased array of activities (using different physical locations: cafés, schools, TVET centres, with irregular frequency; and encouraging spontaneous collaborative meetings between students). The role of the Womanity Afghanistan office would be to promote and strengthen the network by dematerialising teaching and operations, while connecting nodes between GCC students and other stakeholders (including other GCC programmes outside of Afghanistan, private sector actors, relevant local and national stakeholders – see the second point below).

Connection out of isolation: The research and evaluation found examples of GCC students and alumnae who are isolated from opportunities – without access to regular internet, difficulties in using email, and having to borrow family phones to communicate with others. This exemplifies the difficulties GCC participants have in being empowered – atomised from like-minded girls and women, hardships in finding, securing and maintaining income opportunities and accessing assistance. GCC can offer a means of strengthening links between Afghan girls and women and a range of activities – educational opportunities, potential employment, events and different services.

Figure 11. Adaptation of Elinor & Vincent Ostrom's work on polycentric systems



- **Connecting students not only within Afghanistan to other GCC participants, but to international networks, with a multi-year professional and personal individualized approach**, for example people in Brazil or Silicon Valley, who can increase GCC participant capacities in tech and entrepreneurialism. The network is not only Afghan-Afghan, it transcends borders and can further encompass the Womanity Foundation’s countries of focus, partner NGOs and donors, and the international private sector – which is a key additional element in the network. The result will be a workforce that gains key work experience while contributing to growing sectors in the Afghanistan economy. International desire to work in female education and employment may actually increase in the event of a deteriorating in women’s education and employment abilities within Afghanistan. Changes in context have the potential to bring in more NGOs, donors, and the private sector to strengthen the network through additional connections, capital, and working experience. In 2025, GCC would not only have contributed to Afghan girls who know how to code, but have working professionals with solid links to global networks, job opportunities and funding sources.

What would the cohort look like? The Womanity Foundation and GCC Afghanistan estimate that approximately 20-30% of current students and alumnae would be interested in more advanced coding classes, which represents approximately 40 to 50 girls. *“This represents an opportunity for continued support, bootcamps and incrementally building the network over time. (...) The deeper the understanding between all parties, the more the network is strengthened”* as noted by a Womanity representative during the Dubai workshop (Fall 2019). Over time, the number of GCC participants would grow and after 5 years, *direct* GCC network members would represent between 120 and 160 (bearing in mind a predictable 15-20% attrition rate); but beyond direct GCC students, it is expected that a lot of other contributors to the network would keep it active and dynamic, while mitigating the security risk (= centralized physical office), decentralizing decision-making processes, increasing GCC students’ agency, and boosting income-generating projects. While it is naturally difficult to predict what the network might look like in 2025, realistic and indicative targets can be set:

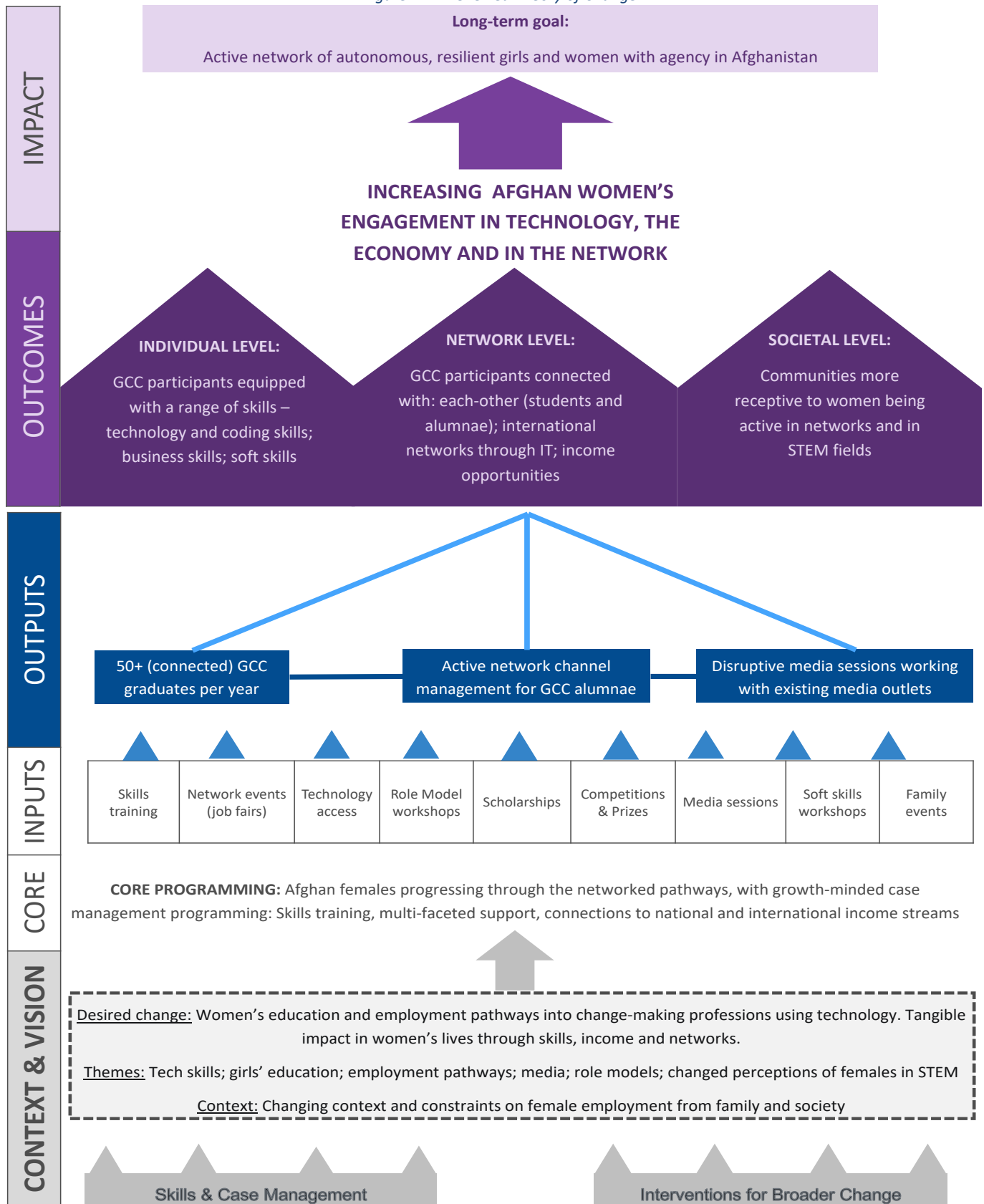
Table 1: Target objectives for the GCC Polycentric Network Model (2020 to 2025)

	GCC (senior students, Afghan)	GCC students (non-Afghan)	Afghan CSOs & Private sector	International Private & NGOs	Universities & Tech Partners
YEAR 1	45	20	10	2	10
YEAR 3	100	80	20	10	20
YEAR 5	140	200	50	20	50

GCC students are labelled as Senior in the table to distinguish them from the traditional prevailing approach (larger cohort for college girls, with a focus on English/IT/and basic coding, who may also contribute to the network after they graduate).

Proposed Theory of Change (ToC)

Figure 12. A renewed Theory of Change



GCC Programme



A long-term case management approach with a smaller cohort of students is needed to optimise GCC students' individual agency and create opportunities to access local and international markets – while reducing dependency to external social, economic, political and security factors.

Given the Afghan context and Womanity's mandate, the polycentric network model aims to decentralize and virtualize "classrooms", pedagogical dialogue, and job placement centres by focusing on people: GCC students will be individual nodes in a larger network composed of multiple local and international stakeholders. It is also assumed that the network will incrementally: 1) develop the technical skills, job opportunities, and self-confidence of GCC participants; 2) create a strong positive image and brand for the GCC programme; and 3) contribute to enhancing the resilience of the GCC initiative thanks to the mechanical increase of its alumnae and professional contacts.

Contextualised Case Management Approach

As the objective is to increase the agency of a network of autonomous women (impact) through tech skills (outcome), it may be necessary to extend the support for a smaller cohort²⁷ benefiting from strong programmes to get marketable skills such as advanced coding. To do so, Womanity needs to adopt a case management approach. This involves understanding beneficiaries and maintaining strong, active contact with them to support their needs as they progress in their potential careers. Understanding their individual aspirations, learning obstacles, pedagogic issues and what support might help them stay engaged with tech, STEM and economic opportunities will be crucial.

This is centred on tailored teaching styles, rolling needs assessment, and focussing on human relationships and face-to-face interactions between Womanity, students, alumnae and trainers. The approach moves beyond training people and finding potential jobs, and – again – towards a polycentric network of people who mutually improve capabilities and well-being.

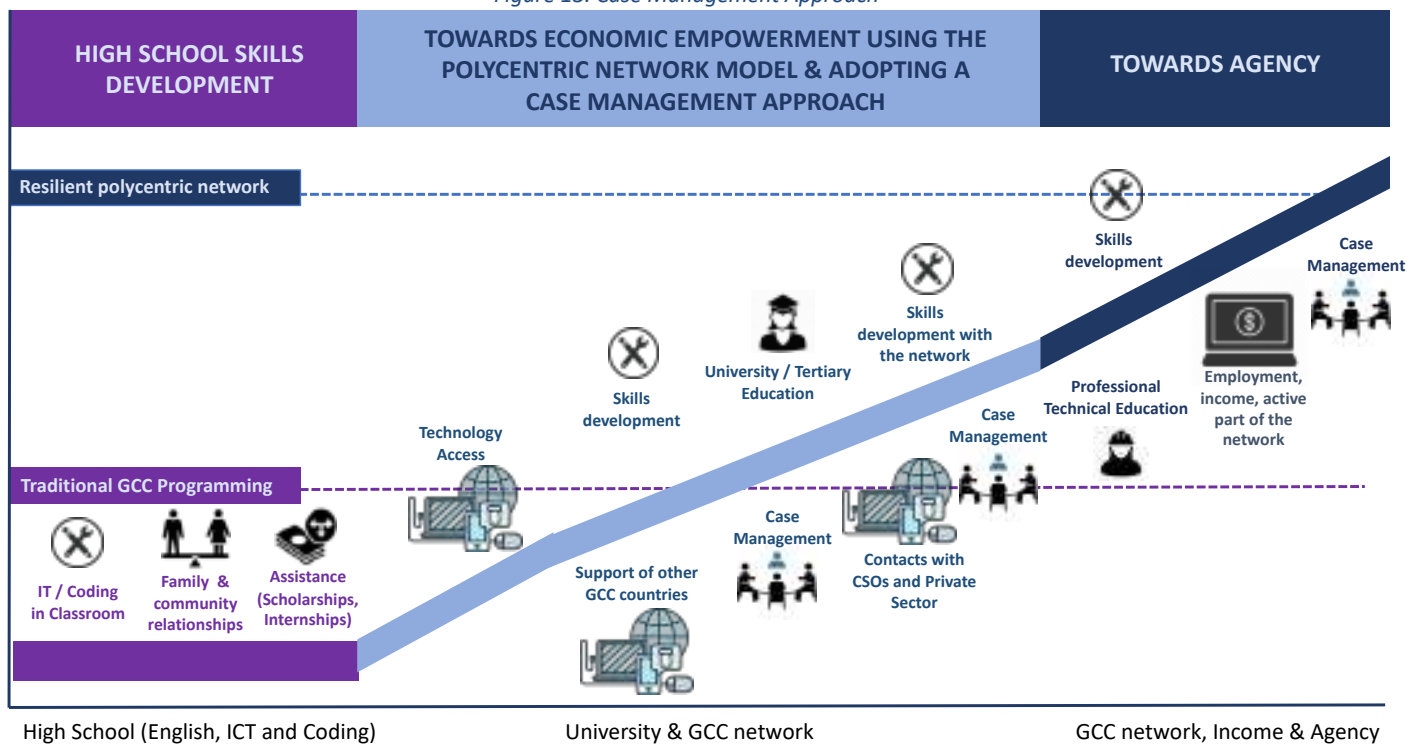
Awareness raising with family and relatives: a necessary and iterative step. *"In order to get a good job, we need the skills, the degree and the experience. GCC should provide us with internship opportunities, and train us in things which the market needs, such as design. They should also do the job of awareness for families so they allow their girls to do STEM programs. Similarly, we want to work in top level places, with facilities like transportation. In order to persuade more girls in STEM programs, media should give a hand. They should show role models to people so other girls will be allowed in STEM by their families. Girls can be persuaded through media for STEM programs, and media should show the benefits to families, that this field has the same value and importance as medicine."* – Computer Science undergraduate alumna, FGD5

²⁷ These factors are dependent on resource and finance availability

What does Case management mean for GCC programme? Case management in the Afghan context would require a one-to-one mentorship to progressively build trust between the case manager and the GCC student. Each case manager would manage several students, potentially up to 10 or 12. The role of the case manager would be manifold:

1. **Technical support:** To make sure GCC students benefit from tailored assistance at each level of their personal development - as students and potentially as young entrepreneurs/workers
2. **Individual assistance:** Given the rather unusual characteristics of the GCC programme in Afghanistan (security situation, sociocultural norms, etc.) an individual dialogue with each student at any time of their education and professional development should be promoted. The psychosocial and social dimension would be essential in this context.
3. **Follow-up:** To make sure that the network approach is optimised, the case manager ensures that GCC students contribute to as much as possible to strengthening the GCC network in Afghanistan and beyond.

Figure 13. Case Management Approach



Hiring and training of Case Managers (and trainers)

Given the sensitive and key role played by case managers who would serve as a technical, social, psychosocial and potentially commercial bridge between GCC student, Womantiy and other stakeholders, it is essential to choose them carefully, train them constantly (Training of Trainers), and of course monitor that the relationship between students and case managers remains as friendly and professional as possible to avoid any backlash on the programme and the students. In this regard, it is suggested to favour as much as possible female case managers which would also allow more frequent public and private interactions.

Moreover, case managers should be trained technically and ethically (safeguarding policy) by Womanity on a regular basis. They should for instance be able to handle situations when the family of GCC students show hostility towards the programme, case manager or other staff; be able to open an informal dialogue with GCC students who want to drop out by trying to understand them and help them making the best choice rather than influencing them. Finally, as GCC students gain technical knowledge and develop entrepreneurial skills, it will be essential to make sure that case manager can also advise them and provide them with relevant contacts within the Womanity network (private sector, investors, other GCC programmes, past students, grants, etc.); Womanity should therefore give regular updates to its case managers to make sure that they are fully aware of existing opportunities at the local and international level from a technical and business point of view.

In terms of background, it is clear that case managers should offer a rare mix of technical, social and psychosocial skills. They should be able to remain neutral when situations become personal given that the GCC programme requires highly skilled profiles as case managers/trainers. Womanity should prioritise individuals who (1) show IT know-how (potentially former GCC or University students); and (2) can receive trainings and updates on the other two components (psychosocial and business). Lastly, as it is difficult to expect case managers to be equally comfortable with technical, psychosocial and business skills, their role will also be to flag issues when GCC students suffer from issues that the case managers cannot handle. Examples might include when a Year 4 GCC student requires more technical skills and niche expertise that the case manager possesses. Therefore, the main terms of reference of case managers are to open a dialogue, to build a bridge, to be a facilitator.

It is recommended to have 6 GCC case managers which will serve 50 students in the first year and subsequently add 5 case managers per year. Assuming: 1) a drop-out rate of 1/6 case manager per year (other job opportunity); 2) an attrition rate of 10% during the year among students, due to sociocultural issues or loss of interest on the student’s side, we would have the following scenarios, detailed in the table below:

Table 2: Target objectives for the GCC Polycentric Network Model (2020 to 2025)

Year	# of CM / Trainers	2020/21	2021/22	2022/23	2023/24	2024/25
2020/21	6 Case Managers	9	+2	+2	+2	-
2021/22	+ 5 Case Managers	-	9	+2	+2	+2
2022/23	+ 4 Case Managers	-	-	8	+2	+2
2023/24	+ 4 Case Managers	-	-	-	8	+2
2024/25	+ 3 Case Managers	-	-	-	-	8

* Drop out figures are difficult to anticipate but we factor in predictable participation/attrition rates based on similar assessments conducted with AKF and GIZ programmes in the ICT and TVET sectors (advanced skills + *ex post* follow-up).

** The scenarios take into account a relative flexibility with one case manager being responsible for approximately 10 to 15 GCC students from different cohorts at the same time which will also favour interaction between cohorts and case managers through constant learning process.

*** The colour code represents the level of each cohort (red = year 1; green = year 3...)

In the above table, for instance:

- In 2020/21, the GCC programme would hire 6 case managers, each working with 8 students.
- In 2023/24, the GCC programme would have a total of $6+5+4+4-1-1-1=15$ case managers, each working with 8 to 12 students:

- Senior case managers (hired in 2020) would work with 8 students from 2020 + 2 students from 2021/22 + 2 students from 2022/23 + 2 students from 2023/24 = total of 14 students, minus 2 drop outs, so 12 students.
- Recently hired case managers (hired in 2023) would work with 8-9 students only, while case managers hired earlier (2022) would mix their initial group of 8-9 students (7-8 with drop outs) with 2 new students from the 2023/24 cohort.

Focusing on marketable technical and business skills

Building on the existing GCC curricula, the range of activities and curriculum would respond to real-world market and GCC participant needs. It would take the form of workshops, bootcamp trainings and experience builders whose length is determined by need and resourcing. This could include working with partners (such as tech companies themselves) to identify skills, develop materials and then conduct a training of trainers for instructors to coach GCC participants in crash courses of varying lengths. Skills and content include:

Advanced coding

What do current and potential partners want? There were continual calls from GCC participants for more advanced coding. This could be adapted to the most recent coding languages that are in demand from potential and current partners and private employers.

- e-learning (PHP). For instance, Genashtim noted they emphasised the e-learning. This includes how to develop e-learning content or adapt existing content, and producing e-learning screens on Moodle, using articulate storyline software and PHP coding for Moodle. Genashtim also use other e-learning and learning management system (LMS) software. A bootcamp/workshop could build on the PHP content in the Year 12 course into more advanced PHP code, as well as adapting the lessons specifically for e-Learning and understanding Moodle content creation and LMS management.
- JavaScript. PomTech ICT Solutions also cited PHP, along with a high demand for JavaScript coding skills (Angular and/or React).

Graphic design

- This follows requests from GCC research participants themselves for added learning components on graphic design, also in a similar vein to Code to Inspire in Herat who have recently added similar learning content. This would include graphic design linked to website design, and shared learning on making websites attractive and accessible.²⁸

²⁸ Design was cited during qualitative work with females as an area they wanted to improve in, and which they deemed important in web development. Code to Inspire added a design component in 2019. This could prove to be a popular bootcamp or workshop for GCC alumnae.

Communicating with international clients

- This course would be a continuation or addition to the soft skills workshops, aimed at GCC participants who are or will work with international organisations or freelance jobs.
- Hard skills covered in the course would include email etiquette, English for professional communications, the importance of open communication and project management skills (i.e. for freelance jobs).

Work as a freelancer

- Understanding different platforms and sites (UpWork, Fiverr)
- Building a portfolio of work (see portfolio section on p.36)
- Further computer and internet skills outside of coding and Microsoft: Advanced use of the internet and different software, communicating with clients as a freelancer, self-branding and marketing on the internet

Learning by doing! Flexible and adaptive learning, through bootcamps or follow-up sessions, would prove beneficial here. The founder of Genashtim discussed how articulating storylines on e-learning; working on Learning Management Systems (LMS) including how to code, register students and create reports; and mobile application development do not necessarily take a 3-4 years of university to learn. Instead, knowledge of the basics, and then attitude backed by support (including internet, communication skills and availability) are needed to succeed. One tangible benefit, this enhanced strategy could easily provide is a personal portfolio in the form of a private web-page that can be shared within the network of participants along with prospective employers within and outside of Afghanistan. This would harness the skills participants learnt, gather experiences in an easy-to-access format and identify potential skills and experience gaps. Existing mediums such as LinkedIn could serve this purpose, as could private, fit-for-purpose web-page portfolios that participants can add to with their projects, skills and experience over-time. In turn, this can be presented to international organisations and possible income streams, and bridge the current gap between programme’s beneficiaries and wider work opportunities.

Figure 14 An example of a landing page with links to portfolios for a web designer and coder



Curriculum change for developing relevant skills.

- Based on the evaluation, a key challenge is to develop the level of skills and proficiency of capacity to be competitive in a global as well as Afghan market. Basic coding for 17 year old-girls is not enough to tap meaningfully into the competitive global market, which most stakeholders agree with while acknowledging that the current GCC approach also has other objectives. Building on the foundational three year GCC programme, the polycentric and case management approaches aim to develop real professional and personal agency after an additional cycle of 3-4 years. In this regard, accounting, business, proposal writing, advanced English, must also be included in the advanced GCC curriculum. On the short-term, the smaller

cohort of beneficiaries need to be competitive with university students on the Afghan market and they may find opportunities on the international market, with a unique selling point being females in Afghanistan. On the longer-run, they need to be competitive in both markets, regardless of the Afghan context and of their specific demographic or socioeconomic characteristics. Ultimately, the professional objective of the GCC programme should not be about “empowering young girls through coding” but “developing a network of highly skilled professionals competitive on the local and global markets.”

Prioritising technical and social acceptability

The last two programmatic recommendations focus more specifically on the issue of acceptability, as the polycentric approach will require a strong buy-in from families as well as some technical adjustments – which may also create an incentive to families.

Internet access at home, provision of an adequate computer or laptop, along with a VPN for Afghan girls participating in the GCC program to increase security and anonymity.

- The calls for enhanced computer and internet access was a recurring theme in focus group discussions. Learning coding and web development skills but (outside of a limited number of better-off participants) without a way to practice or use them is a gap in the programming. Computers and internet paired with strong communications between the Womanity Foundation team in Afghanistan and participant families has the opportunity to increase family buy-in. It also adds the possibility for more participants to practice and strengthen skills. It is important in the ability for GCC alumnae to work from home effectively.

Formulation of an adapted narrative for participants’ parents and relatives to strengthen the acceptability of the programme from the onset and on the long-run

- In the Afghan sociocultural environment, it is essential to engage with family circles to better understand what their perception, concerns, and aspirations are. It is also important to identify how they may evolve overtime, depending on the autonomy and self-confidence gained by the GCC students from a personal and professional point of view (hence the key role of case managers here...). As most GCC students have a middle-class urban background and as a lot of them may have already attended the initial 3-year foundational programme, the outcomes of the dialogue may be impacted by security. Some parents may be reluctant to let their daughters either attend events or classes household their home, or even participate – remotely – to a programme funded by a foreign entity. Based on similar experiences, transparency will be essential, so that parents remain “in control” and so that relatives do not spread rumours on the alleged activities of the GCC student; on the longer-term, the economic and social advantages of the programme should be emphasised so that parents realise the potential of GCC in social, economic and psychosocial terms.

Partnership



Womaniity should look for potential partners with two-way value add who would allow the organisation to extend impact. For this, it is well-placed, due to efforts over the past years, to maintain constructive relationships with a range of counterparts in the private sector, government, and local media.

Despite many programmes dedicated to female empowerment in Afghanistan, most have difficulty coordinating and/or have different areas of focus. This underscores the organisation's niche and value add to the broader ecosystem. A targeted number of potential partners may contribute to shared female education and employment aims, working in different parts of the STEM ecosystem. GCC should pursue partnerships along four major lines: 1. Network / pipeline / ecosystem partnerships; 2. A renewed private sector approach, 3. A renewed Afghan government approach, 4. Bringing in disruptive media expertise to work with the Afghan media. Last, this section suggests to adapt a partnership approach developed by UNICEF to keep girls engaged with STEM in their education journeys.

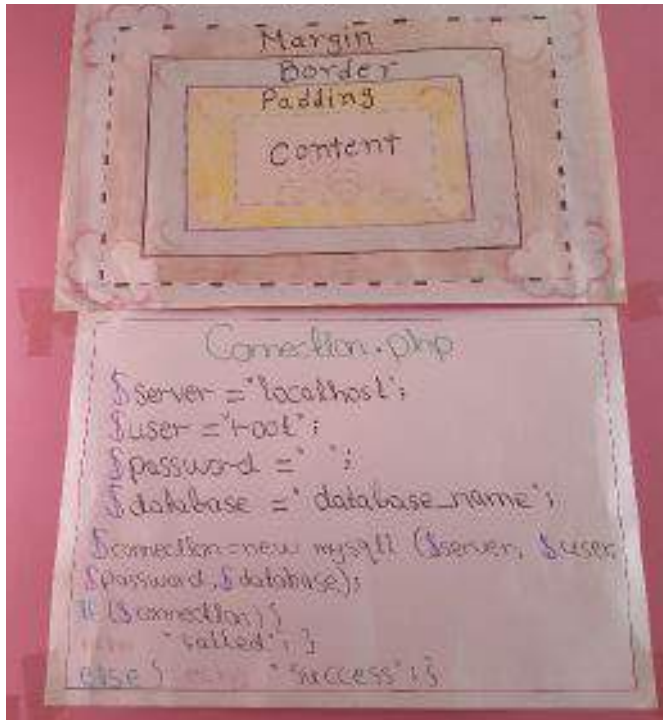
Network, ecosystem and pipeline partnerships

Despite major efforts to create sustainable programming for women's education and employment by national and international initiatives and civil society organisations, the potential partnership landscape remains fragmented. Multiple initiatives exist with few linkages, and little staying power. But Womaniity already coordinates with a number of key partners including the Ministry of Education (MoE), Afghan Girls in ICT (AGinICT), universities such as SALAM University Kabul, and a small number of private sector organisations such as GNI. Opportunities exist to strengthen nascent links or develop new ones over the coming years (Potential Partners Table below). Womaniity's openness, both at the Afghanistan and the HQ level, to link with other organisations and stay up-to-date on developments regarding girls in tech is a key strength of the organisation and the programme as a whole. The following opportunities for partnership have been identified.

Potential for close collaboration with key counterparts. Afghan Girls in ICT (AGinICT) and TechWomen Afghanistan are two tech-industry based organisations working to advance females in ICT in Afghanistan. Afghan Girls in ICT (AGinICT) works to provide Afghan girls with role models in IT and computer science, and provide support to females progressing in their tech careers. Concrete activities include computer awareness classes in school, leadership and business training for young women studying computer science at university, as well as job readiness training and networking opportunities for female computer science graduates. AGinICT partners with an international organisation to help women launch innovative tech businesses.

TechNation is an umbrella organisation, with TechWomen Afghanistan (commenced in 2012) and TechWomen Asia (a new initiative) falling under TechNation’s Community Service section. It offers a variety of programmes, including with the World Bank and Bright Future, running the *Business Incubator*. The incubator involves mentorship classes, networking, business development planning and leadership training for women with business plans involving technology – some female graduates are now working in high levels of the government and the private sector.²⁹

Figure 15 A poster in a GCC class with php codes, an in-demand skill



Both TechWomen and AGinICT organisations offer potential partnership opportunities for deepened links with GCC. They are smaller, more niche and more responsive than larger international gender-employment interventions. Both organisations are running platforms and programmes to connect Afghan women in tech with each-other and opportunities for advancement in the field. GCC is already currently working loosely with the AGinICT, but the links with this organisation and TechWomen could be deepened through linking GCC alumnae with the two organisations (and their trainings), collaborative workshops and alignment in programming with shared experiences and best practice.

Extending networks. Partnerships should be explored not only with potential employers but also with “peers”. Code to Inspire (CTI), a programme similar to Girls Can Code currently implemented in Herat, used to teach coding to both female high school and university students. Today, CTI focuses on university students. There is potential for GCC alumnae and CTI participants themselves to connect, enhancing their communications with other women between Herat and Kabul, sharing problems and finding inspiration in shared experiences and learning. This could be done through video conferencing as well as connection into the wider GCC network. Womanity and CTI are already well connected thanks to yearly update calls – integrating their work more closely would represent a logical next step.

Creating portfolios. Among the many benefits, tangible and intangible, that GCC graduates could draw from widening their contact base, is learning about facets of ICT which they might be less familiar with. One example is portfolios. The focus by CTI Computer Science University students is joined with an emphasis on building a portfolio of completed work. This portfolio can then be used in remote working pitches, but is also ostensibly useful in job-seeking. GCC graduates would benefit from a similar platform to showcase their experience (see more in the strategy section).

²⁹ Including Shabana Mansoor who worked at TechWomen from 2013-2017 and who has gone on to start AGinICT.

Partnerships designed to engage girls in tech along the STEM pipeline. After consolidating the core programming of GCC between 2016-2019, Womanity is in a position where they can share learning with education providers. Advocacy and working for societal level change in the STEM ecosystem beyond the four GCC schools can be done in a low-visibility, sensitive and cost-effective way. This can include working more closely with relevant MoE officials to share learning and experience, as well as with girls' schools more broadly, including private, progressive institutions such as SOLA, Kardan, and Malala Fund-linked Afghan schools. There are deep structural issues that The Womanity Foundation knows well from their work in School in a Box, such as lack of facilities. However, growing global evidence attests to the power of role models in school environments: This could include media dissemination within schools (which are almost always gender segregated and therefore poses low risks of blowback), of females learning and working in tech and STEM more broadly, or school visits by successful GCC graduates.

Contribution to job fairs and Tech events. Traditionally, in Afghanistan, job fairs play a significant role as they allow participants, from both sides of the labour market, to meet and create some tangible trust. This type of platforms are both virtual (accessible through <https://www.afghanjobs.org/> and <http://www.acbar.org/>) and physical (through initiatives from governmental actors, such as MoCIT and MoLSA, private sector, NGOs and CSOs). Security permitting, the participation of GCC students could allow them to get a better understanding of the reality and expectations of the IT scene.

Private sector partnerships

Private sector engagement approach. The Womanity Foundation approach to private sector engagement has been somewhat ad-hoc. The GCC team, in particular the partnership officer, works hard to establish contact with companies and secure internship positions for GCC students. However, companies' response rate has been low so far and this is matched with a fast-growing alumnae base of girls who may decline internships or pull out for the reasons discussed above (Section 1). Much energy is seemingly expended to secure the 20% target alumnae internship rates and in the long term, this might not be the most effective method to build sustainable private partnerships.

Creating a partnership package. The Womanity Foundation HQ and the GCC team in Afghanistan might foster ongoing partnerships with a core group of private sector and international organisations through well-designed meet-and-greets. This would build a package with examples of GCC alumnae work and showcase GCC graduates themselves, including multimedia displays of portfolios and design skills, an explanation of the GCC vision, an in-depth discussion on the needs of the partner organisations (including skills, both hard and soft), and how GCC can adapt their programming to fulfil these needs. The demand for tech skills is high. Private tech companies need tailored and high-level engagement for a re-think on internships as investments in longer-term labour capacity building, that will bear fruits in the future.

International networking. Opportunities to remotely work on projects outside of Afghanistan are nascent but growing, and an important potential niche for GCC. International connections should follow the partnership package formula of dual engagement between Womanity HQ and the GCC Afghanistan team, demonstrating the GCC vision and tailoring support to GCC alumnae based on the

specific work opportunity. University graduates not possessing the requisite skills was common feedback during the labour market assessment, in reference to both hard skills but also a range of soft skills. In line with the work already done by AGinICT, TechWomen and international NGOs such as Generation, GCC could extend some of their programming to a bootcamp approach, leveraging Womanity’s flexible and adaptive programming in response to the fast-changing sector needs. This would imply an expansion/extension from a solely school-based year-on-year progression towards an up- and re-skilling approach. The development of the polycentric approach will naturally be instrumental in this regard.

“If you say you can do coding, not many people know what to do with you. But if you can code a product, that people can use, then it’s something you can sell.” - Founder of Genashtim

Ancillary support partnerships. The Womanity Foundation could consider partnering with those who might mitigate some of the structural obstacles faced by their students, interns and working graduates. For instance, the Pink Shuttle Bus is a programme run by Nove Onlus providing female-driven public cars to female transport users in Kabul. Still in its infancy and only serving a limited number of beneficiaries, the programme has plans to expand between 2020 and 2022. This could present an opportunity to overcome one of the barriers facing GCC participants (and women more broadly) in transportation.

Potential partners in the private sector

PomTech ICT Solutions are a tech company with headquarters in Herat and a branch in Kabul. They focus on web design, software development, mobile applications, digital marketing and data entry for the international market. In 2019, they had 50 employees, 17 of whom were female. PomTech have ambitious expansion plans, noting that the poor economic conditions within Afghanistan do not affect the company with their international clientele base. In describing their skill needs, they cited hard skills including Javascript (Angular and/or React) for web and mobile applications, and PHP (which features in the GCC course and was also cited by Genashtim below, another international tech employer as an essential coding language to learn). PomTech also noted that English, communication skills, time management, teamwork, and simple search engine skills³⁰ were essential.

“American and European companies are very interested to help Afghanistan. So we say to them that we don't need your charity or donations. We have enough talented people to work remotely and earn money.”

PomTech had 10 interns in 2019, all of them male, on a 9-month internship program with food reimbursements, training and internet.

“The main problem that we are facing now is finding experienced staff. There are a lot of work opportunities, but unfortunately, the people who are graduating from universities are not ready for work. The companies we are working with have high standards and expectations. We need to invest in this regard. If such programme prepares women and girls well, it would be beneficial for us to hire them.”

Genashtim are a social enterprise that conduct IT based work, with most of their staff working remotely and coming from diverse, disabled or refugee backgrounds. GCC alumnae are set to commence in internship

³⁰ PomTech acknowledge that being able to Google sounded simplistic, but that a surprising number of computer science university graduates lacked this basic skill.

opportunities with Genashtim in late 2019. Genashtim offer one example of the growing potential in international, remote work opportunities for Afghan females in tech.

Unlike many Afghan companies and government workplaces, Genashtim do not emphasise university degrees. A key informant interview with the founder noted that as long as people have the skills, abilities to learn, the right attitude and the work ethic, degrees are not necessary.

Along with two professed core hard skill needs in php for e-learning instructional design; and mobile application development, Genashtim have other needs that would be applicable across work opportunities. A stable internet connection of course, communication skills, and subscription to the Genashtim corporate culture of flexibility, but ongoing availability.

Government partnerships

Between 2016 and 2019, GCC maintained a working relationship and Memorandum of Understanding (MoU) with the MoE. While government ministries and departments are subject to changes in outlook, the Womanity Foundation can increase collaboration with the MoE to share learning experiences in IT, especially given the MoE's renewed emphasis on leveraging technology in learning.³¹

“If you do not have technology skills, you will not be able to find a job in the labour market in 10-15 years.” - Mr. Mohammad Ibrahim Shinwari, Deputy Minister of General Education

- GCC could look to show-case female abilities in tech with sensitive, real-world examples that can change perceptions of high school girls about their own abilities and possible career pathways.
- The other aspect of enhanced government partnership is in exploring ways to provide more formal accreditation to GCC participants at various stages of the course, given Afghanistan-employer emphasis on certificates and diplomas.

While the MoE would be the focus of further collaboration, loose links with the Ministry of Women's Affairs (MoWA), as well as the Ministry of Information and Culture (MoIC) and the Deputy Ministry of Youth Affairs within MoIC, should be established in the event that areas of synergy come up in future years. MoWA ran a programme to change perceptions on fields considered to be designated for men, closely linked to The Womanity Foundation's work. However, MoWA was not explicitly aware of GCC programming.

“We always suffer from lack of coordination among stakeholders which are government or nongovernment organizations. If we were involved in this [GCC] programme, we would be happy to support the programme through encouraging girls, joining their meetings, or inviting them to our meetings, or providing working opportunities for them in our organization.” - Ms. Spozhmai Wardak, Deputy Minister (Technical and Policy) of Women's Affairs

While this is not a major programmatic issue in itself, updates between the GCC Afghanistan team and relevant governmental actors would go towards preventing siloes in female STEM programming in

³¹ Key Informant Interview with the Deputy Minister of Education, 2019.

Afghanistan. This could take the form of annual workshops with key stakeholders (including the above-mentioned potential partners TechWomen and AGinICT, who have relationships with various international governance organisations such as the World Bank, and the President’s Office), to discuss priorities and key developments for tech, broader STEM and female employment.

Media partnerships

Beyond a low-profile approach targeting other girls and young women who might want to pursue tech and STEM-related paths, the Womanity Foundation could partner with sensitive, disruptive media. The Afghan media landscape has developed and matured in the decade prior to 2020, with television and social media along with older radio formats gaining major followings. The Afghan Girls Robotics team and female engineers working on Darul Aman Palace were widely known through media by qualitative research participants.

“I see female presenters in the media and also female engineers and journalists. The impact of their work in television is good on us, and made me believe in the capability and capacity of women, that women can also work and become presenters, journalists, doctors, and not just be a housewife like me.” - Mother, FGD8

“I want to get a higher education. When people come to know that a woman is an engineer, they think that a woman cannot do this job, and only males can do such kind of jobs. Now, if a girl holds a Master’s Degree in the field of technology or engineering, still people don’t believe her. But if the media appreciates engineering girls, their families will understand that girls can be engineers... TOLO TV³² has a great effect on me.” - Alumna, not currently working or studying, FGD6

Challenging gender stereotypes and norms also directly links to the entrenched structural barriers seen in the evaluation and the context analysis. There is interest to partner from media organisations such as Zan TV (who explicitly work on female representation) and Moby Group. Options exist to work with them and with a different range of media outlets, with workshops, technical assistance and trainings on female STEM awareness. This would combine GCC’s institutional development pillar with the Womanity Foundation’s other global pillar in disruptive media, and have the potential to tackle widely held notions and misconceptions around females in STEM.³³

³² TOLO TV is a commercial television station run by Moby Group.

³³ One example from the pilot was the lack of knowledge on what Computer Science degrees would actually lead to in terms of job titles, in contrast to Law and Medicine. Computers and tech are still not widely understood in Afghanistan, so sensitive media work could raise the profile and knowledge of female participation in STEM.

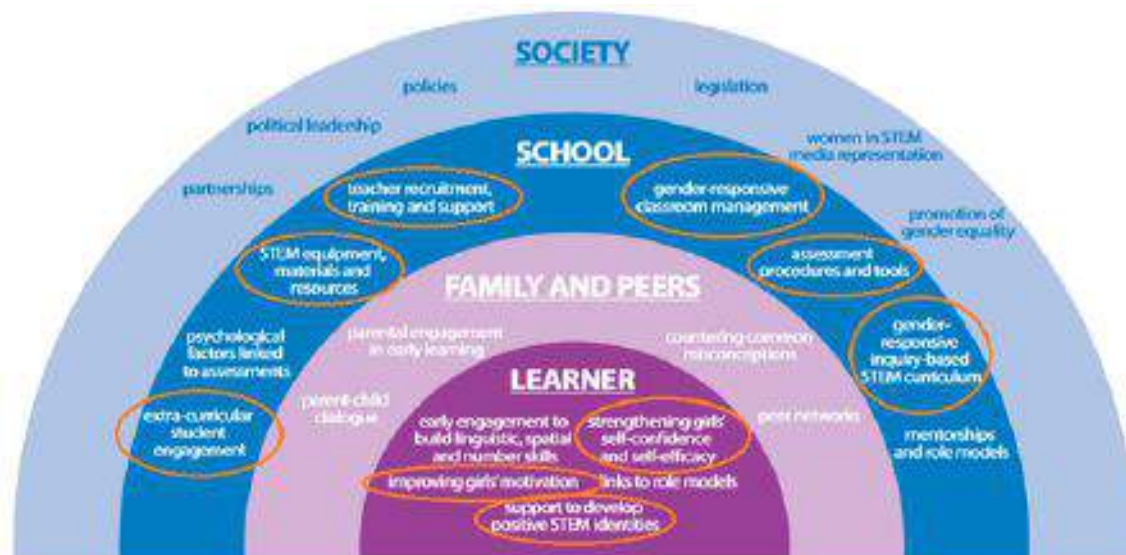
Table 3. Potential Partnerships Table.

Category	Organisation	Location	Partnership possibility
Network, Pipeline and Ecosystem Partners			
Network, Pipeline and Ecosystem Partners	Afghan Girls in ICT	Kabul	Working closely to join GCC graduates to Afghan Girls in ICT and collaborate on context and opportunities
	Technation / TechWomen	Kabul	Working closely to join GCC graduates to TechWomen and collaborate on context and opportunities
	Digital Citizen's Fund	Kabul	DCF working on STEAM school in Afghanistan: Part of network of female connections and learning, role model potential (Girls Robotics Team).
	Code to Inspire	Herat	CTI as part of the network for female connections and learning
	Girls' schools (MoE, SOLA, Malala Schools)	Kabul	Sharing GCC expertise with others at early stages of the STEM pipeline
	Kardan University i-Lab	Kabul	On top of already strong university links (i.e. Salam), more two-way value partnerships with universities
Media			
Media	Zan TV	Kabul	Working with media to challenge gender stereotypes
	Moby Group	Kabul	Working with media to challenge gender stereotypes
Private Sector			
Private Sector / Employers	PomTech ICT Solutions	Herat and Kabul	Example of internship and work progression on new revamped model
	International organisations	Kabul	Example of internship and work progression on new revamped model
	Genasthim	Global (Remote)	Example of internship and work progression on new revamped model
	UpWork / Fiverr	(Remote)	Portfolio build and connections to international income streams as future goal
Ancillary support			
Ancillary	Pink Shuttle Buses	Kabul	Transportation services for women in Kabul
Government			
Government	MoE	Kabul	Embedding learning long-term; spreading role models within girls' schools
	MoWA	Kabul	Commence check-ins and collaboration
	MoIC	Kabul	Commence check-ins and collaboration
	TVETA (or other similar)	Kabul	Potential for certification and curriculum spread considered important by Afghanistan companies

Promotion of the STEM engagement ecosystem

The 2017 UNESCO report *Cracking the Code* presents global evidence in research on engaging girls in STEM. It provides a roadmap of factors and associated interventions to keep girls engaged with STEM in their education journeys. Given this set of tools, the Womanity foundation are well placed to be able to contextualise this learning to the Afghan context. This does not necessarily mean the Womanity Foundation and the programme will need to cover all areas along the pipeline and in the ecosystem of interventions. Instead, the models can be used to see where Womanity’s strengths lie, where there can be easy wins, and where there can be potential partnerships. It also involves the rolling context analysis as a framework in understanding what other organisations are doing (i.e. in the media; new developments such as the Digital Citizen’s Fund STEAM school³⁴), and then linking beneficiaries with those initiatives where appropriate. Expanded impact would come from low-cost, wider work through partnerships and shared experience across the pipeline and ecosystem (i.e. shorter intervention workshops in girls’ high schools around Kabul).

Figure 16. Stem engagement ecosystem and Womanity strengths



The orange circles are areas GCC are currently strong in their programming, and could share this with other institutions (such as the MoE and private schools) to amplify impact beyond the four schools of implementation. For instance, the curricula and learning manuals were pointed to as successful areas of GCC programming. Sharing these and providing collaborative training with other schools (such as MoE counterparts, SOLA and Malala Fund schools) will mitigate against siloes developing in the Afghan female STEM scene. The areas that are not circled orange could be areas for partnership, or where Womanity can increase work. Many of these areas (peer networks, links to role models), are already being developed by Womanity and would be more structured in a revamped GCC model involving polycentric networks. Further media work is also recommended (potential partnerships section).

³⁴ The Digital Citizen’s Fund (DCF) proposed STEAM school is built on the efforts of the Afghan girls robotics team and Roya Mahboob’s efforts with DCF to open a school dedicated to Science, Technology, Engineering, Arts and Mathematics in Kabul. The likely opening date is 2022.

M&E and Learning



Beyond iterative evaluations, the GCC programme suffers from a lack of monitoring and learning culture. In today's fast-changing context, a focus on context analyses should be prioritised, along with the development of a proper learning approach: **impact vs. ~~output~~**; **wellbeing indicators vs. ~~job creation only~~**; **qualitative indicators vs. ~~absolute figures~~** – and more generally, **contribution vs. ~~attribution~~**.

Given the suggested changes (polycentric model *and* case management), shifting to a proper monitoring and learning approach is not only timely but also necessary for Womanity and its GCC programme.

Keeping close tabs on a selected number of graduates, through case managers. Working and growing with a reduced number of participants long-term would involve the Womanity Foundation working to understand who their beneficiaries are, as well as their immediate context as girls and young women in Afghanistan. How do the students perceive the program? How do they see themselves? What are their aspirations? The Womanity Foundation has already begun a rolling student survey with the current student cohort. Samuel Hall deployed a limited alumnae survey that had a higher-than-expected success rate.³⁵ The Womanity Foundation, including the Partnership Office, also maintain a database of alumnae in order to connect them with internships, and to track what they are doing after the GCC programme. At this stage though, the alumnae contacts remain ad-hoc, with attempts to reach alumnae often experiencing difficulties.

Rolling context analysis with both an objective and subjective focus. The extreme volatility of the context may have a detrimental impact on parents and students' willingness to participate to both physical and virtual GCC activities, classes, and events. Only a rolling context analysis of: 1) the political and security perspectives in Afghanistan and Kabul specifically (objective assessment); 2) GCC participants' perceptions, fears, concerns... will allow Womanity to identify risks and possible tipping points (subjective assessment). The subjective component of the rolling context analysis would include participant capabilities, happiness, social interactions, roles played in society, levels of economic autonomy, and psycho-social stability; it would also consider discussions with the family and possibly relatives, conveyed by case managers, so that the Womanity team can identify risks of drop outs. Beyond GCC students, a thorough assessment of the context using ANSO's³⁶ resources to conduct the objective component of the context analysis would help Womanity decide when and how adapt its programme (lower profile, virtual classes, temporary adjustments, etc.).

³⁵ 33 alumnae responded to the online survey. Most were from the 2018 graduating class. A snowball technique was utilised, and the Womanity Foundation partnership office also distributed the online survey.

³⁶ See <http://www.ngosafety.org/index.html>.




Development of multidimensional learning indicators. The impact of the polycentric model should not (just) be monitored based on the number of jobs created in coding, or the skills acquired by the participants. It should also be monitored and evaluated based on the type of network created and individual agency strengthened by the initiative. The examples of students who studied coding, but have gone onto different professions is important in this regard. Likewise, participants actively staying in touch with the rest of the network show degrees of success in connectivity and agency. The ultimate objective of the polycentric model is to create, in a time of political uncertainty, a network of autonomous independent resilient women who can pursue, develop, and insulate networks for the future Afghanistan. In this regard, it is recommended to focus attentively on the following types of indicators, bearing in mind that figures do not mean anything without a proper understanding of the reasons or drivers (gathered, triangulated, and analysed through a qualitative assessment):

- Individual level
 - Technical skills (coding, business)
 - Economic (job creation, opportunities)
 - Social inclusion (access to services)
 - Societal contribution (activities in the community)
 - Psychosocial (stress, anxiety, loneliness)
 - Active participation to the network (frequency, nature)
 - Wellbeing (definition, agency, subjective happiness)
- Programme level
 - GCC standard (grade 10 to 12)
 - Achievements in English, IT, coding
 - Interest in pursuing more advanced coding classes
 - Coordination with other stakeholders
 - Benchmark with University students
 - Polycentric model
 - Profile of case managers (performance, perception, satisfaction)
 - Satisfaction rate and concerns raised by families
 - Nature of the coordination between stakeholders through a network analysis of the nodes, interactions, outcomes between network members (GCC students, Womanity, private sector, CSOs, NGOs, and possibly the government).
 - Actual outputs and outcomes (jobs and consultancies created, individual projects generated, entrepreneurial initiatives, strengths and gaps vis-à-vis other international competitors, links established with other GCC programmes and students, number and type of employments secured by GCC students in other non-IT related fields, etc.)

ROADMAP TO 2025



Table 4. The GCC roadmap to 2025

<p>Mission</p> 	<p>At a time of uncertainty for Afghanistan, Womanity aims to build a resilient network of Afghan women driven by a common passion for technology, entrepreneurship, and new ideas</p>
<p>Strategy</p> 	<ol style="list-style-type: none"> 1. Maintain the programmatic rigour and reflexiveness from the 2016-2019 programming, building off the Womanity Foundation team’s strengths in quality implementation, as it may not directly generate economic outcomes at this stage, but does contribute to improving the social and psychosocial dimensions of the girls who attend the programme. 2. Develop and sustain a polycentric network of GCC “senior” students with more advanced and marketable skills to progressively build a local platform of knowledge, business and friendship, and contribute to the wider international GCC network.
<p>Programme</p> 	<p>A long-term case management approach with a smaller cohort of students is needed to optimise GCC students’ individual agency and create opportunities to access local and international markets – while reducing dependency to external social, economic, political and security factors.</p> <ul style="list-style-type: none"> - <u>Contextualised Case Management Approach</u>: It is essential to implement a case management approach, complementing an exclusive education year-level progression model, as it is not likely to generate direct marketable skills and may become more difficult to implement in a deteriorating political and economic context, as girls’ schools might become de facto actual or perceived targets. Instead of focusing solely on the three years of extra-curricular support with some adaptive add-ons and measuring success with the percentage rates of graduates and interns, it is recommended to add a focus on smaller cohort of beneficiaries over a longer period of time as they progress into their careers, including being responsive to individual needs and aspirations. - <u>Hiring and training of Case Managers (and trainers)</u>: the programmatic key factor of success will be the case manager. It is important to train them regularly and provide them technical, psycho-social, and human skills – while ensuring a high retention rate over the duration of the 5 year programme. - <u>Focusing on marketable technical and business skills</u>: Adopting a wider array of activities even if this means catering to a smaller cohort. This adaptive programming will respond to market and participant needs, and can include building a portfolio, bootcamp trainings (examples include graphic design, advanced JavaScript, business skills, international communication and corporate culture for remote working), networking, job fairs, and experience builders. - <u>Prioritising technical and social acceptability</u>: Provisioning technology in the form of laptops and internet, while continuing to work closely with families, will allow GCC participants to compete inside and outside of Afghanistan in education and employment.

Partners



Womaniity should look for potential partners with two-way value add who would allow the organisation to extend impact. For this, it is well-placed, due to efforts over the past years, to maintain constructive relationships with a range of counterparts in the private sector, government, and local media.

- Network, ecosystem and pipeline partnerships, with Afghan Girls in ICT (AGinICT) and TechWomen Afghanistan among others.
- Private sector partnerships, through fairs and B2B meetings, with a partnership package to showcase GCC graduates themselves, including multimedia displays of portfolios and design skills.
- Government partnerships, to grant formal accreditations to GCC participants at various stages of the course.
- Media partnerships, to focus on behavioural change and awareness raising with disruptive media.
- Promotion of the STEM engagement ecosystem, as an operational partnership mapping for GCC.

M&E Learning



Beyond iterative evaluations, the GCC programme suffers from a lack of monitoring and learning culture. In today's fast-changing context, a focus on context analyses should be prioritised, along with the development of a proper learning approach:

- Keeping close tabs on a selected number of graduates, through case managers.
- Systematising rolling context analyses with both an objective and subjective focus.
- Development of multidimensional learning indicators.



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