

Davis Peace Project Final Report

Project Leader: Feven Moges Naba

Title: Techiyalesh Initiative - Promoting Peace by Empowering Women in STEM Fields

Partnership Organization: Ethiopian Physical Society in North America – EPSNA

Project Dates: June 1– August 2022

Location: Ethiopia

Affiliated Institution: Earlham College

UWC Attended: UWC SEA East

Social Media Links: Project website: <http://www.sews-et.com/>

Facebook: [Techiyalesh Initiative | Facebook](#)

Instagram: [Techiyalesh Initiative \(@techiyalesh_initiative\) • Instagram photos and videos](#)

Summary:

Techiyalesh Initiative is a peace project that empowers women who are in Ethiopian higher education institutes pursuing STEM disciplines by equipping them with the resources they need to succeed. This is accomplished by launching a professional society (Society of Ethiopian Women in STEM - SEWS), implementing STEM clubs at regional universities, and finally providing graduate school mentorship to highly motivated students.

Project Description: Project inspiration and implement

Women today are told they can be and do anything, yet only 28.8% of STEM jobs around the world are occupied by women. This gender disparity grows even wider for Ethiopian women as they make up only 13.3% of the national science and technology workforce where men outnumber women as students, educators, researchers, and workers in STEM fields. This low percentage also reflects the severe social and cultural barriers that deter women from pursuing careers in STEM and the urgent need to implement systems and support that help to close the gender gap. As the only woman in most of my physics classes, I have not been spared the outcome of gender disparity. While I am grateful for the benefits, I have been afforded by attending a liberal arts institution with the core values of peace and justice, I also feel compelled to act on behalf of Ethiopian women whose struggles are exacerbated by the lack of accessible and widely implemented support systems. To tackle these challenges, my teammates and I chose three strategies that are nationwide and localized: establishing a professional society (SEWS), implementing STEM clubs focused on female students, and providing graduate school mentorship to highly motivated students. The professional society is open to all female college students in Ethiopia, whereas the STEM clubs are localized to only four universities.

Choosing host site

SEWS clubs are implemented in the following four universities:

1. Addis Ababa Science and Technology University
2. Adama Science and Technology University
3. Hawassa Institute of Technology
4. Arbaminch University

We chose these institutes because they offer the broadest STEM programs and house most of the STEM student population in the country. Thus, establishing SEWS clubs at these institutions would be more beneficial. All the above universities were welcoming to the project idea we had. We were mainly supported by the female faculty, some of whom were already trying to individually mentor and advise female students. These faculty mentors were also finally recruited to be the club advisors as volunteers and help in recruiting student members of the clubs too.

Changes or adjustments

Initially, we planned to distribute Arduino kits to SEWS club members and select two conveners to facilitate projects and meetings. However, we realised that it would be more beneficial to have female faculty advisors who are more familiar with the university's logistical system (such as securing a

laboratory room for students to do their projects in). Further, the faculty advisors assist with organising Arduino training sessions because of their prior experience. Therefore, part of the budget was adjusted to purchase tablets for eight advisors (two faculty advisors at each university).

Other fundraising efforts

We collaborated with EPSNA for the mentorship program. SEWS student mentorship program provides all the necessary training and guidance with graduate school application and EPSNA assists with providing faculty mentors and meeting the financial needs of students to pay for standardized tests (TOEFL and GRE) and graduate school application fees. This program is currently supporting five students in Ethiopia.

Opportunities for continuing the work on this issue

Since the website is self-sustaining for additional two years, we will be continuing to add resources. In addition, the mentorship program is also sustained by volunteers until the mentees apply to graduate school in 2023. Therefore, we continue to provide mentorship and training.

Reflection: How do you define peace?

We think that peace can best be defined by the presence of justice and equity, with opportunities allowing individuals to follow their aspirations. This means systems and structures that disrupt peace, specifically gender-based discrimination in our case, need to be properly addressed and resolved. It is when opportunities are not only equally provided, but in consideration of other contributing societal factors, that people can follow their dreams and aspirations. This leads to a peaceful and sustainable society where women are integrated as equal participants, contributors, and decision-makers in all fields, including STEM.

Contribute to peace (What changes occurred? Short-term? Long-term?)

Techiyalesh Initiative seeks to put in place systems that support the success and retention of female students in STEM fields. It's not that women aren't interested in science; rather, they frequently lack the support they require to take advantage of opportunities in STEM. Additionally, the misrepresentation they encounter in their fields of interest and the gender-based discrimination they experience discourages them. The fact that a group that thrives in a field can exist while others are discouraged is a clear indicator of disruption of peace. Even though everyone in Ethiopia faces economic difficulties that are reflected in the accessibility to academic resources, the burdens on women are doubled. Techiyalesh initiative provides electronics resources for students to conduct self-initiated experiments and projects thus enhancing their experience with technology, and opportunities to interact with mentors (students and professors in Ethiopia and the United States). The initiative's success is determined by the emergence of prominent scientists and leaders who are engaged in their communities and beyond to serve as examples for younger generations.

What did you learn about the dilemmas, challenges, or conflicts that underlie the targeted issues or utilised approaches/strategies?

The primary challenge we faced was not being able to travel to Ethiopia because of the civil war that took place until October 2022. The U.S. embassy being closed as a result hindered the in-person plan of travelling to universities. We are thankful that the Davis Project Committee granted an extension to complete the project in December. To accommodate for this change, the budget allocated to internet and phone calls increased because of more virtual interactions. We learned that although the participation of women in STEM is low, particularly those applying to graduate programs, the opportunities are still minimal for both genders. The challenge is worse for women because even within such a limited resource, they are accessing very less. This indicates that education is an area that needs further reformation. Often email communications did not work, therefore, we had to change

our communication mode to telephone calls to get a timely response. In addition, there were very few females in leadership positions and in moments where that was not the case, we did not get supportive responses for collaboration from some higher education institutions.

Has your project changed the way you think about the world?

We were inspired by the motivation of the female students we encountered while doing the project. The graduate school mentorship program comprises essay questions that contribute to the students' selection process. Through both the reading of the essay and the interviews held, we learned the depth of the hardships, as well as the perseverance and hope of the students which was truly inspiring. Meeting female professors who had been mentoring students on their own and beginning to work with them also demonstrated the value of collaborating to achieve more significant changes. It served as a reminder that many people share the desire to create more peaceful societies, and that we should draw inspiration from their achievements.

Personal Statement

It is impossible to talk about a peaceful and sustainable future when women are not integrated as equal participants and contributors. Techiyalesh Initiative is a peace project that aims to empower women in Ethiopian higher education that are pursuing STEM disciplines. As a leader of this Initiative, I learned the implications of gender disparity in STEM in-depth and the challenges of the Ethiopian education system. I was also inspired by the commitment and perseverance of the outstanding students I had the opportunity to work with.