

# **Deconstructing the White Savior Model through Engineers Without Borders student chapters: an unlikely intervention**

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# **Deconstructing the White Savior Model through Engineers Without Borders student chapters: an unlikely intervention**

## **Abstract**

For many students in Engineers Without Borders (EWB), their desire to join the club is fueled by a desire to help others, pay back, or contribute to social good. Some students, as they explore scholarship and discussions on the criticisms of sustainable development, experience a sort of cognitive dissonance as they continue their work within organization they are not entirely aligned with, often questioning the impacts and motivations of their own efforts. At EWB, California Polytechnic State University, San Luis Obispo (Cal Poly, SLO), we have intentionally encouraged this process, with a desire to allow people to confront the difficult questions regarding global development. This paper will outline the salient theories, frameworks, and criticisms regarding sustainable development work and its connection to voluntourism, capitalism, and neocolonialism. Recognizing that these attempts to help others are in reality student-centered [1] and tend to fail the partner communities [2], we desire to investigate how to better center partner communities in our work [3], and describe several attempted interventions into our chapter that seek to center these concerns and more critically examine our efforts to make a positive impact and minimize our unintended harms. We also describe individual stories of this transformational process, examining our collective positionalities as “outsiders within” seeking to change an institution we are a part of but not entirely aligned with [4]. Finally, we describe the directions we are moving in to further encourage reflection and action to center sustainability and community agency in our efforts [5] [6].

## **Introduction**

The authors on this paper are students, faculty and alumni who have dedicated multiple hours to Engineers Without Borders (EWB) at California Polytechnic State University, San Luis Obispo (Cal Poly, SLO). We care about each other and our partners across the globe, yet we have deep and almost existential questions about our involvement in this organization. We wonder if our interventions in communities in the global south, given our positionality as peoples who have benefitted from historical oppression and pillaging of resources, can ever end well. Yet, we do have resources and power that we long to wield for equity. Our overriding question is: Are our efforts reparations or reinforcing white supremacy? This paper attempts to both explain and share our ongoing concerns.

The paper begins with background on EWB-USA and EWB at Cal Poly, SLO. We then explore the literature on global development and students learning. This is followed by a description of our efforts to intervene to bring about deep reflections in the students and professionals in EWB.

We end with our own stories of grappling with these issues in the community through reflection. It is our hope that this is the beginning of a deep and meaningful conversation about our place in the world and how EWB can bring forth community first global development and educate thoughtful and kind engineers who can deconstruct the current system of social and technical dualism.

## **Background**

### *EWB-USA - History*

Engineers Without Borders USA (EWB-USA) was founded in 2002 at the University of Colorado Boulder by civil engineering professor Dr. Bernard Amadei. In 2000, Amadei visited a community in San Pablo, Belize where he learned about an existing lack of clean water and sanitation infrastructure. After returning to Boulder to develop a prototype with colleagues at the university, Amadei returned to Belize with a team of students to install a waterfall-powered water supply system. Two years after the project's completion, the university chapter grew to nearly 100 engineering students interested in partnering with developing countries to design and implement infrastructure projects. The organization was officially established in 2002 with the mission statement to build "a better world through engineering projects that empower communities to meet their basic human needs and equip leaders to solve the world's most pressing challenges." (<https://www.ewb-usa.org/>) International offices have been established in Nicaragua in 2015, Guatemala in 2016, and Uganda and Ecuador in 2019. Over the past 20 years, the organization has grown to have more than 17,000 volunteer members working with communities in 40 different countries through five-year partnerships. EWB-USA has grown to operate through nearly 300 student and professional chapters across the United States that work to design and implement infrastructure projects abroad in the areas of water supply, water wells, energy, and building structures.

### *EWB - Cal Poly, SLO - History*

The student chapter at this university, Cal Poly, SLO, began in 2005 and has grown to be one of the largest student chapters in the country. We are proud of the work we do and have been recognized by EWB-USA as the West Coast Regional Premier Student Chapter for six years. We are active in EWB-USA, often leading presentations and panel discussions at regional and national conferences. We have participated with the United Nations as part of the Major Group for Children and Youth at the Forum for Science, Technology, and Innovation for Sustainable Development Goals. We have four active projects: Fiji, Kenya, Nicaragua, and Local where we work on interdisciplinary teams with community members to address concerns important to the partner communities. We have previously worked in India, Thailand, and Malawi with varying degrees of success. We are supported by the College of Engineering at Cal Poly, SLO and have two faculty advisors who are very active in the club's activities.

## *Literature*

Scholars have identified and outlined an ideal form of “service learning” that reference and prioritize instituting agency with the “developing communities”, and overall provide a more holistic and transformative view of “service learning”, but the reality of most engineering development initiatives is that they don’t live up to those standards. More often than not they become opportunities for voluntourism and experiential learning for those who are serving [7]. While student volunteers almost always get their benefits from the project, typically in the form of resume-building and engineering experience, there is a high rate of failure on most humanitarian projects, leading to concerns of exploitation and continued harm towards already vulnerable communities.

There is a variety of research into the causes of these rates of failure. One such cause may be the relatively short time frame of these humanitarian projects - a time frame of only 4 to 5 years does not provide a lot of time for genuine relationship building. University students typically are only involved for a maximum of four years, and because of this, the vulnerable populations and communities who were being served by these projects suffer the most [2]. Additionally, most development projects tend to prioritize “technical functionality” and sideline socio-economic power relations and cultural considerations. Many engineering development programs share problematic assumptions about technology's role in community engagement. Part of this may be due to the ideologies of “depoliticization” and “meritocracy” present in engineering culture - one is less likely to consider “unobjective” factors such as socio-economic power relations if they believe that their work is “depoliticized” or “objective” [8].

Outside of the criticisms of typical humanitarian service-learning project structures, there are criticisms of the broader project of development as well, such as accusations of development being inextricably linked with colonial and neocolonial practices. Humanitarian engineering efforts, even with the intention to “help”, are wrought with ideas and assumptions that perpetuate exploitation, consumption, and destruction of the environment [3]. In response, some call for radically new models of partnership outside of the dominant model of development. “Alternatives to development” have emerged in Latin America from a multitude of social movements [9], including movements such as grassroots engineering and autonomous design. Many of these alternatives to development stem from decolonial mindsets and philosophies of liberation, sharing critiques of colonialism, imperialism, and globalization. According to these mindsets, “development is an inherently colonial project”, assuming a linear, western-based model, ignoring historical and cultural contexts, instead simply ranking countries with universal sets of criteria.

While the authors do not have enough of a familiarity with these many philosophies and mindsets to make bold claims about how to move forward with engineering practices for social good, one thing is evident: “unaware engineers may unknowingly entwine themselves in the long

histories of colonialism, imperialism, and neoliberalism. So, a critical view of the idea of development is due” [9].

## **Interventions**

Even though EWB Cal Poly, SLO has been an active chapter for 17 years, it is only since the club advisor changed to a faculty member in Ethnic Studies that the perspectives other than engineers could even be seen. This faculty member joined in 2014 and immediately intervened to ask probing questions about the impact of the club's efforts on the communities. This began a series of purposeful interventions in the structure and activities of the club to make this focus more sustainable. Each of these interventions are listed below.

### *Multiple faculty advisor*

Since the advisor change in 2014, other faculty have been brought to the club as team advisors. The current structure is that there are two advisors for the club, one from engineering and one from Ethnic Studies and Women and Gender studies. The engineering advisor does research in engineering education with a social justice frame so can easily partner in conversation about equity and positionality. Each international team has a primary advisor who is from the social sciences with deep experience in the countries and cultures we work with. In addition, there is both a registered engineer in charge (REIC), sanctioned by EWB-USA, and engineering faculty that function as consultants. The centering of the social science faculty has allowed the teams to grasp the importance of cultural, political, and community knowledge. However, in some ways this is not a completely sustainable model as the faculty advisors do this work without compensation. The club receives around \$50,000 from the college yearly that needs to be managed, the intricacies of student teams traveling, and the communication with EWB-USA makes this advising workload quite heavy.

In addition, there is still a consistent prioritization of technical work in all the projects which often leave the students and faculty from the social sciences with a feeling of invisibility. The club advisors are constantly reminding students that the past failures of development work have overwhelmingly been in the social realm because technology is implemented without enough attention to the context of the issues and the disregard of cultural concerns in implementation [2].

### *Critical Global Engagement Club*

The EWB Cal Poly, SLO chapter started a sub-committee called Sustainability Task Force (STF) in 2017 that was intended as a space for members to work on small-scale interventions in the chapter. This included projects such as better financial record keeping, and the Crash Course that was designed to integrate new members more smoothly into the chapter and give them a

background in international development (see below). Sustainability Task Force grew into its own club, called Critical Global Engagement (CGE) Club.

The main function of CGE was to give members a place to talk about scholarship and have discussions in the realm of international development work, including examining the criticism of groups such as EWB. Members of CGE also facilitated a partnership with Omprakash ([www.omprakashg.org](http://www.omprakashg.org)), a non-profit focused on building relationships between volunteers and social impact organizations. In particular, this partnership allowed interested Cal Poly, SLO students to enroll in Education through Global Education (EDGE), a program in Omprakash that provides educational resources and conversations aimed at reconfiguring volunteer efforts to disrupt paternalism and inequality, striving for more radical learning and social change. CGE also initially had students work on projects relating to international development and community relationship-building.

In more recent years, projects in CGE have been discontinued, partially due to lack of student interest, and additionally due to COVID. While still engaging in discussions around international development, EWB participation in CGE has fallen somewhat.

#### *Local community college EWB chapter*

The faculty advisors are involved in a current NSF S-STEM grant (ENGAGE) which is working with local community colleges and Cal Poly, SLO to strengthen the community college transfer student pathways. One aspect of this grant is to connect extra-curricular activities across institutional boundaries. This led to the formation of the first community college [10] chapter of EWB at Cuesta College. This inclusive activity helps to continue these conversations past Cal Poly, SLO.

#### *EWB Cal Poly, SLO Bylaws & Priorities*

EWB-USA founder Bernard Amadei visited the Cal Poly, SLO campus in Winter of 2018 and gave a talk on his work with EWB-USA. Several members of EWB Cal Poly, SLO and other affiliated groups attended and found several areas of disagreement with the statements he made. Key among them being the emphasis on student learning over community impacts, a lack of concern of the inaccessibility to less financially secure students to participate in international development spaces, and a belief that student efforts always justified their attempts to help, even when it ultimately concluded in harms to the community.

Following this discussion, members of EWB Cal Poly, SLO and Critical Global Engagement club drafted several revisions to the EWB Cal Poly, SLO bylaws in order to better outline their priorities, while still operating under the structures of EWB-USA. While abiding with the mission, vision, and project processes of EWB-USA, EWB Cal Poly, SLO would additionally follow four primary priorities in their efforts.

1. The first priority is to “*practice a community-first model of development.*” This means that the chapter would attempt to support community-driven projects, attempt to critically measure success as defined by the community, foster meaningful relationships with partner communities, and prioritize transparency in impacts and both successes and failures.
2. The second priority is to “*develop a community of globally-minded students and professionals.*” This includes providing social and technical educational resources, fostering a collaborative environment of individuals of diverse disciplines and backgrounds, encouraging an ethos of individual social responsibility, and addressing complex real-world problems and examining impacts to marginalized communities.
3. The third priority is to “*challenge norms in higher education and STEM.*” This indicates interactive and interdisciplinary project work, as well as a concentrated effort to include those outside of STEM disciplines in these efforts. It also includes a reflective process of what it means to be an engineer.
4. The fourth priority is to “*enrich the club culture of diversity, equity, and inclusion.*” This includes creating equal opportunities for travel through financial support to students, creating a focus on DEI, as well as sustaining a more equitable and inclusive club community and culture.

While EWB Cal Poly, SLO is still attempting to fulfill these priorities in practice, these bylaws do represent a significant student-led effort to refocus the efforts of EWB Cal Poly, SLO. Additionally, it should be noted that these have not significantly changed since 2019 and may not perfectly represent the efforts and more recent changes in EWB Cal Poly, SLO.

### *Failure Reports*

While the goals of EWB are to do good in communities sometimes our presence has produced conflict and strife. We are troubled that our intentions to bring about good so often create an impact so different.

Failure Reports were a student intervention into how project outcomes were documented. They had two primary purposes. First, in being referred to as *failure reports* instead of phrases such as *lessons learned*, it emphasizes how international development projects do carry a real risk of failure and harm to partner communities, even as volunteers nearly always gain skills and experience to further their professional lives. Second, in recognition of knowledge not always being passed down well, it was intended to allow for better transfer of knowledge to future project team members, in order to warn against repeating mistakes.

Hosted in CGE, the failure reports were worked on for a time, but due to lack of student availability of time and resources, the project was never completed and fully integrated into

EWB Cal Poly, SLO project processes. An alumnus from Cal Poly, SLO did present a poster at the EWB-USA national conference on this topic. [11]

### *Project Lookback, Project Review Night, and After Action Reports*

Project Review Night originated out of a desire to better examine student preparations for project implementations and travel, with the intention to prevent the chapter from engaging in major decisions before the teams were adequately prepared. This was largely due to a particularly flawed travel trip taken in 2018 to Malawi. Originally focused on project engineering designs, the scope was eventually expanded to account for the importance of proper community assessments and to better incorporate the expertise of non-engineering professionals.

The first major aspect of the project review process was Project Lookback, an event in which alumni from EWB Cal Poly, SLO could share their experiences with EWB projects. Alumni feedback was particularly helpful in the areas of working with mentors, keeping realistic project scopes, and in working with many different stakeholders with differing values and goals. In addition to knowledge transfer on common causes of difficulties and failures in these projects, Project Lookback additionally emphasized the importance of looking back on previous efforts, as well as to better connect current members with the knowledge of Alumni.

Following this, each project team in EWB Cal Poly, SLO participate in an hour-long project review presentation and discussion. Each review has EWB-USA mentors, Cal Poly, SLO faculty, and EWB Cal Poly, SLO students, and alumni in attendance. Typically, 30 to 40 people attend these virtual meetings. Project teams present their current project plans on assessment and project design and are able to get detailed feedback from everyone in attendance. Project Review Night is meant to allow teams to meet and find advisors in a variety of fields of expertise and is intended so that teams could identify and recognize problems early on in the project process. Lastly, this process allows for all members of EWB Cal Poly, SLO to periodically get updates on the status of the other project teams, as well as making sure teams organize their own information and efforts as well.

Lastly, each team holds an After Action Review to discuss information learned at Project Review Night, review notes from reviewers, and discuss next steps amongst the project managers, chapter leadership, and faculty advisors.

The intentions, procedures, and templates involved in the project review process were presented at an EWB Cal Poly, SLO conference that was attended by members of EWB-USA. While it is currently unknown how much it has impacted the processes of other chapters, at least one student chapter took the initiative to email EWB Cal Poly, SLO members for information regarding the process. This event in particular will likely undergo revisions and updates in coming years.

### *Diversity, Equity, and Inclusion Committee*



EWB Cal Poly, SLO began to place a bigger emphasis on Diversity and Inclusion during Fall 2019, in response to a racist social media post regarding undocumented individuals at Cal Poly, SLO. In response to this post, three officers in the chapter began a club committee on Diversity and Inclusion and issued a statement condemning the post and reaffirming the chapter commitment to supporting their students. This committee was eventually established as a permanent standing committee, with two designated officers who headed the new Diversity, Equity, and Inclusion (DEI) committee.

Initial activity of the group focused on connected EWB Cal Poly, SLO to other diversity and activism focused groups on campus and invited a Cal Poly, SLO faculty member to facilitate a training session on supporting undocumented students called UndocuAlly. The committee was also able to invite a group called SAFER to speak at a chapter meeting, who work in confidential advocacy and support for addressing sexual violence on campus. The committee also hosted socials and engaged with content such as the movie *Hidden Figures*, exploring how the efforts and contributions of minoritized groups were systemically downplayed in popular culture.

Other efforts included working on a presentation, *Dissecting Development*, about the history of development and international volunteering efforts, with an explicit focus on racism, colonialism, and neocolonialism, as well as how it related to the work of EWB Cal Poly, SLO. The committee distributed scholarship and a statement of support on police abolition during the nationwide protests following the murder of George Floyd.

More recently, the committee created *Centering Community: Examining Engineering Mindsets*, a presentation about the inadequacy of traditional engineering problem solving methods and an introduction to community-centered practices for development work. A significant collaboration with CGE Club came in the form of a three-part expansion of the original *Dissecting Development* which was presented at the 2021 EWB Regional Steering Committee West Coast Conference. The committee also partnered with a local grassroots organization to hold a workshop on mutual aid.

The DEI committee's current focus has somewhat shifted to efforts to implement and emphasize meaningful community-centered practices backed by specific scholarship through all stages of the project process. The committee is working on building dedicated organizational channels for resource-sharing between project teams related to community engagement and assessment best practices, but the effectiveness of this approach is yet to be determined.

### *Crash Course*

In 2017 EWB Cal Poly, SLO began a new program called Crash Course with the goal of better introducing new chapter members to the chapter prior to them joining one of the project teams. Originally the program was designed to teach new members about the EWB project process

through a six-week program that included presentations from each of the project teams in a large group and activities and discussions related to a mock EWB project in smaller breakout groups.

Crash Course was redesigned in 2019 to better align with our chapter priorities and include a wider variety of content related to EWB in four weeks instead of six to allow new members to join project teams earlier in the academic term. The first week of the program consists of a presentation to all the new members with information about the structure of EWB Cal Poly, SLO and ways to get involved before splitting up into small breakout groups of around ten students for a presentation and discussion about an engineering development project. The four week curriculum is organized as follows:

1. This first breakout discussion primarily focuses on the misalignment of the intent versus impact of engineering development projects.
2. The second week of Crash Course begins with a large group presentation about the EWB project process including a walk-through of a past project from our chapter. Following this presentation is a breakout discussion focused on the construction of a decision matrix used by one of the EWB Cal Poly, SLO project teams to determine the material that would be used for water storage tanks. This discussion primarily focuses on the importance of community preference in these decisions.
3. In the third week new members rotate through each of the project team meetings.
4. The fourth week consists of a short wrap-up discussion related to topics from the first two weeks of Crash Course before students decide which project team they want to join. This program gives students a start to thinking critically about their work in EWB Cal Poly, SLO.

Together these interventions have created a culture of critical inquiry and hunger for change in the way we relate to the world. We are continuing to think about activities and deconstructing the dominant models of global development in order to change the way we work as engineers.

### **Stories of Transformation**

As we discussed this paper, we consistently returned to our own realization of how far our intentions of helping are from the actual impacts on those we hoped to help. This realization led all of us to question our participation in this organization. Below are some of our reflections of this realization.

*Julia Cannon - Former Project Manager*

When I first joined Engineers Without Borders, as a privileged white person I did not yet recognize the abundance of privilege that inherently saturates the field of engineering, let alone with engineering volunteerism. I remember initially identifying with EWB as a space that would allow me to prove the degree of “good” in my intentions. I chose to join

the Nicaragua project team. Being a newer project meant a higher potential for travel, which was an attractive motivator for me at the time. I remember telling others that I was interested in pursuing a career in international development, with the internal hope that they would see it as a reflection of my intention to “help.”

The pivot in beginning to recognize and question the privilege embedded in this mindset happened when the founder of EWB came to speak at Cal Poly, SLO. I remember initially feeling inspired by his talk; the perceived model of helping resonated with my personal goals at the time. It wasn't until his second talk, where some of my peers started questioning the underlying impacts of these dangerous intentions, that I began to question and reflect on my own motives. Peeling back the layers that can disguise the harmful impacts of good intentions made me realize that good intentions were not enough. As I started taking on more leadership roles in the club, both on the chapter officer board and as a project manager for the Nicaragua team, I also engaged in more of the club-led discussions around our connections to the white savior model. These conversations began to shape my project involvement, most prominently with an effort to increase and improve communication. We needed more input directly from and needed to provide more regular updates directly to the community. We needed to initiate more collaboration with professional engineers and community leaders, recognizing our technical and informational limitations as students. As these changes started to take place, it seemed that the project progress became even slower. We were limited by the bureaucratic nature of nonprofit work, but it became even more evident that the timeline of the project was dependent on our learning curve.

Slower, in some ways, was better, as it meant we were taking the necessary time to prioritize community engagement and involve more stakeholders. However, it was clear that the effects of the slower pace happened at the cost of the community's continued lack of clean water access, while we still benefited from the educational experience. As a student volunteer, the weight of the responsibility connected to these impacts became overwhelming, cultivating a growing sense of resentment towards EWB and disappointment in our efforts. It felt as though we weren't doing enough, even knowing that the scope of enough could only be realistically met by a full-time team of professional engineers and community partners. Realizing that several of my peers in our student chapter shared similar experiences of confusion and frustration, I found it and continue to find it challenging to describe why I remained involved. Collectively discussing the implications of the “helping” model, why it can initially be so attractive, and how it has permeated the greater national organization we are a part of – has left me no longer interested in a career in international development. While I am still pursuing work in sustainable water resources, I now believe this can be achieved more equitably by pursuing projects that are directly around me.

*Andrew Chan - Current DEI Coordinator*

EWB was one of my earliest interactions with engineering applications as a first-year engineering student at Cal Poly, SLO. I was initially attracted to the club for the opportunity to gain specific engineering project experience with the added bonus of helping people in need. Going through the Crash Course program as a new member introduced me to the engineering development model and some of its major critiques simultaneously. Because of this I feel that I understood development work as being somewhat complex and potentially harmful from the very beginning. Even so, I was extremely confident in our ability to understand and overcome these pitfalls as a club and do good.

I was able to channel my excitement to confront these problems back into EWB by becoming one of two coordinators for the Diversity, Equity, & Inclusion committee. One of the first projects I worked on for the committee was our presentation *Centering Community: Examining the Engineering Mindset*, where we critiqued engineering problem solving methods and identified better practices for community-centered development work. Researching for and working on this presentation gave me an even stronger sense that we had the knowledge, tools, and ability to actually help the communities we partnered with. At this point I felt that I was seeing what needed to be done very clearly.

At the same time, I was trying to integrate myself into my project team, which is the newest team as well as the only one not doing an international project. I immediately noticed myself struggling to identify areas where I could apply the critiques and better practices I'd worked so hard to educate myself and other club members about. Although I knew there were (and still are) other people on the team who understand the importance of doing community-centered project work, I felt limited in my ability to "rock the boat" by my lack of experience and general confusion about EWB's project process. Much of what I'd read about sustainable, ethical development revolved around thoughtful and equitable community assessment and collaboration, so why did our project begin with a problem statement handed down from EWB? As time went on, I became increasingly dissatisfied with our team's efforts to understand the partner community and create an assessment plan. I was extremely frustrated and overwhelmed by the complexity of what we had to do given our relative lack of technical expertise as students and complete lack of real anthropological or sociological expertise as engineers – to the point where I stopped attending meetings regularly.

My frustrations with the project team have also had an impact on my earlier confidence in the DEI committee as an effective intervention. Our education efforts have not been effective in reaching the entire club, resulting in varying levels of both knowledge of and commitment to improving the current problematic model for engineering development work. Although I think there's potential for us to do equitable and just projects locally, I am critical of our ability to do so as a student-run club within the current structure of EWB.

*Sarah Navias - Chapter President, 2021-2022*

I originally joined EWB Cal Poly, SLO in the Fall of 2017 and went through the first Crash Course run by the chapter as a freshman. I was mostly interested in joining the chapter to learn about ways to use my engineering interests and knowledge for "good". I initially joined the Malawi project team but stopped attending meetings after a few weeks as I did not feel that I had anything to contribute to the team given the large emphasis I felt placed on technical engineering skills. After speaking to a friend about her experiences on the Malawi team, I decided to rejoin in the Fall of 2018 as part of the cultural education and communication sub-team shortly after a few members of the team traveled to Malawi.

In the Winter of 2019, we had to decide whether to continue working on a bicycle-powered maize mill that the team had tried and failed to design and implement in the five previous years. This is where my thought process related to this work started to change. We regularly had discussions as a team about how to proceed with some team members wanting to continue the maize mill project just because they felt connected to it and were predominantly part of EWB Cal Poly, SLO just to work on it. There became a divide on our team between people who did not see a point in continuing to work on the maize mill and people who were clinging onto a concept they desperately wanted to make work for themselves. After many weeks of these discussions, we ultimately decided to stop working on this project.

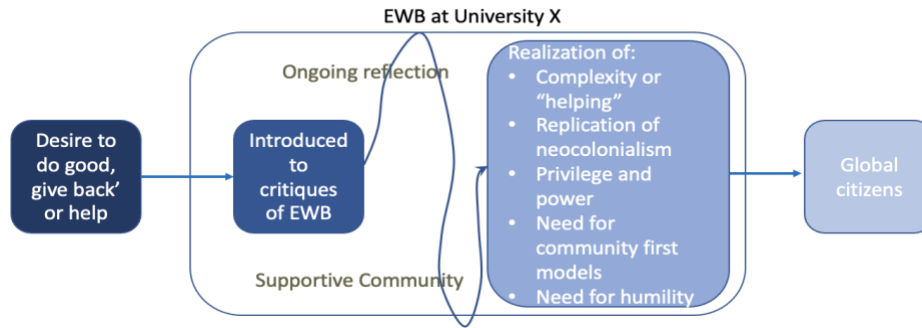
These discussions significantly changed the way I looked at EWB and development work. I felt as though I did not have the authority as a college student to be making these decisions for an entire community as I did not understand their perspective on our work. Our team discussed how much had gone into that maize mill project, and I was incredibly frustrated by all that was essentially wasted on this project and how long it took for this project to come to an end. I have since become more involved with EWB Cal Poly, SLO culminating in my position as the chapter president this year, yet I struggle with why I am still here even though I have found many aspects of this work frustrating and confusing. I ultimately stayed because I found a community within this chapter where I could share

my frustrations and confusions with EWB Cal Poly, SLO and wanted to share my thoughts on this work with others who were interested in EWB. I still struggle with how our chapter currently contributes to the white-savior model and if we will ever be able to operate in a way that does not contribute to this model or ultimately cause harm to those with whom we work.

*Lizabeth Thompson - Club Advisor*

Having grown up with countless privileges as a tall wealthy white person I realized early that I wanted to find a way to “give back” or “do good.” When I heard about EWB in the early 2000’s I was inspired to find a way to get involved. It wasn’t until 2018 that I had a concrete way to engage. I was asked to travel with a student group to Malawi for the 5th trip there to work on a bicycle powered Maize Mill. Our trip there was a disaster in many ways, but it ignited in me a crisis of identity. On one of the first days in the community, as we were leaving after a day of playing with children and testing water samples, one of the excited children got their finger caught in the van door. We immediately treated him with first aid and saw the wound would heal, but in the pit of my stomach I felt this was a metaphor of our impact in Malawi. Our technology was doing more harm than good. As the trip continued, we calculated the cost of our work which included five trips each costing in the neighborhood of \$20,000 (\$100,000 total) had resulted in one bore hole, a kind of consultation gift for five maize mill designs that failed to realize a human would take 10 hours to do what an electric maize mill could do in about 10 minutes. I returned with great sadness at the cost to the community of this failure compared to the rich experience of this trip for me. I realized my “doing good” was “doing bad.” I resonated with a critique of EWB as “Teenagers pretending to be engineers while traveling the world.” I was and am heartbroken. Since 2018 I have asked myself many times if my participation as advisor is encouraging or discouraging a white savior model of global development. I’m still asking this question.

Reflecting on these four narratives, we see a common process that is illustrated in Figure 1 below.



*Figure 1: Reflection in community process*

We are attracted to the EWB organization because of our deep desire to help others or make a difference in this world. This is the root of much non-profit work and is commendable at its core. Many of us also long to work on meaningful engineering projects to hone our skills. When students are first introduced to Engineers without Borders at club fairs or through current members, they usually join the Crash Course (described above). During this introduction the critiques of global development are discussed, and questions begin to emerge about models of development where those of us in the global north are providing aid to those in the global south. This becomes an ongoing conversation at team meetings, office board meetings, DEI committee meetings, and through the CGE club. Many of these critiques are outlined in the literature review and introduced through the multiple interventions. We desire to create a space where there is opportunity for ongoing reflections of both self and the EWB organization that is done within a supportive community so that students can wrestle with the complexities. Some students leave the organization because they have concluded that EWB is not a vehicle for change. Others of us continue to push for changes in the global development model within EWB. Of course, there is a variety of opinions, and we all are at different places in this journey, but we are passionate about the conversations.

### **Future directions intentions**

As we contemplate the future of EWB at Cal Poly, SLO we are considering several strategic directions. We would like to strengthen the local projects with potentially adding a new team while simultaneously withdrawing from the international work. Both Nicaragua and Fiji are within a couple years of the end of their 5-year agreement. Of course, this decision will be made by the club as a whole and will be aligned with our club goals discussed above. We hope to influence both the professional chapters we work with and EWB-USA as a whole to increase conversations of what it means to prioritize the global communities instead of the student's learning. In addition, we dream of a day when individuals from places like Malawi or India, can travel to the US and help us with our problems. We long to learn about strong connections to

place and communities from those who live and practice this daily. We are developing connections with a university in Ghana which may lead to authentic exchanges of knowledge.

## Conclusions

Based in scholarship of global development and our own interventions into EWB, we have shared our transformational path and our hopes for a future where mutual respect and genuine sharing of assets both financial and relational will allow engineers to develop into compassionate and curious global citizens. It is our hope that this paper will influence the conversation about the role of global development work in advancing equity. We are conflicted in these conversations as we recognize that the privileged northern countries have resources that should be shared, and a legacy of pillaging through colonization and occupation. In some ways we owe reparations to the countries we are working in. On the other hand, we have seen so many projects that have failed to produce the promised results and have left the communities with nothing but bad feelings about Engineers Without Borders. We do not know the answers to the questions that are raised in this paper, but we hope to engage in ongoing conversations about this work.

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