Facilitating the Growth and Development of the Namibia Project Center

Interactive Qualifying Project Report

Sponsoring Agency:

Worcester Polytechnic Institute International and Global Studies Division (WPI IGSD)

Agency Contact:

R. Creighton Peet, Namibia Project Center Director

Submitted to:

Project Advisors: Aaron Sakulich (Associate Professor) & Alexander Smith (Associate Professor)

Submitted by:

Jessica Elder   Steffany Halfrey   Matthew Moore   Stephanie Sontgerath

May 2, 2018

Abstract

Our goal was to develop sponsor relationships and find projects for the Namibia Project Center (NPC). We identified suitable IQP and MQP sponsors and their proposed projects. We ranked these organizations based on their ability to sponsor and enthusiasm, and their projects on expected quality. We assessed our sponsor communication methods to determine which were the most effective. Our methods will assist the NPC Director in expanding the NPC, and can be adapted for use at other project centers.

Acknowledgments

We would like to thank the following individuals for their advice and support:

- The Namibia Project Center Director, Professor R. Creighton Peet, for his extensive knowledge of Namibia, for making our preparatory term an enjoyable and educational experience, and for his continued support during our time in Namibia.
- Project Co-Advisors Dr. Alexander Smith and Dr. Aaron Sakulich, for their helpful critiques and for motivating our team to work to the best of our ability.
- All WPI faculty and staff that we met with, for their advice and for sharing their past experiences with WPI projects.
- All members of the Namibian organizations that we met with, for taking the time out of their busy schedules to learn about WPI projects, and for teaching us about Namibian work culture.
- The 2016-2019 NPC students, for taking the time to tell us about their experiences with their sponsors and their ideas for the future, and for brightening our time in Namibia.

Our project would not have been completed to the best of our ability without all of your help.

Executive Summary

Worcester Polytechnic Institute's (WPI) 47 Interactive Qualifying Project (IQP) and Major Qualifying Project (MQP) global project centers must accommodate the increasing number of WPI students who desire to complete their IQP and/or MQP, around the world. Each project requires a partner to provide the project idea. This partner is typically known at WPI as the project's "sponsor", and is usually an educational institution, a non-profit organization, a government agency, or a for-profit company. Project center directors must identify suitable sponsors with project opportunities for students. These projects must meet the educational requirements of an IQP or MQP, and help the students achieve personal growth and advance their interpersonal skills. These projects are also meant to assist the sponsoring organization. Relationships with sponsors are difficult to maintain due to many challenges, such as communication issues, shortages of project ideas, limited resources to host students, and changes in leadership within the organization. The Namibia Project Center (NPC) in Windhoek has faced all of these problems. As the NPC expands to include a second term of IQPs per year, and may host MQPs in the future, it is increasingly important to create lasting relationships with organizations. Therefore, our team's goal was to develop sponsor relationships and find projects for the NPC.

To accomplish our goal, we identified and contacted potential sponsors that could partner with students at the NPC. We identified these organizations through suggestions from R. Creighton Peet, the NPC Director, and mutual contacts, such as other IQP teams or representatives from organizations, and by conducting our own search online and in person. We found that using a reference to an organization from a mutual contact, was the most effective way to find these organizations. We also found that we often had to conduct drop-in visits to organizations' offices to set up meetings. To ensure that each new organization understood the IQP and MQP, we created marketing materials and interaction protocols. Our marketing materials included a NPC informational flyer, an example brochure of IQPs, an example brochure of MQPs, and a sponsor guide. Our interaction protocols consisted of step-by-step communication methods and pre-determined interview questions for past, current, and potential sponsors. We asked past and current sponsors about their experience working with WPI students, to better understand how to maintain partnerships. Most of our time with potential sponsors was

spent explaining WPI's program. After meeting with each organization, we evaluated them based on their ability to sponsor a project and enthusiasm. We also assessed all proposed projects based on their expected quality. We then used these assessments to rank organizations and proposed projects, and recommend the organizations which the NPC Director should prioritize for future projects. Our team also created a directory of sponsor contact information and a booklet of organization summaries, including their purpose, their scores based on our sponsor and project analysis, project ideas, and our recommendations for the NPC Director's use.

We contacted 47 organizations to develop relationships. Among these organizations, we identified 20 potential IQPs, five potential MQPs, and 11 organizations capable of hosting MQPs. The proposed IQPs involved research on the organization's current and potential initiatives, recommendations for improvement, and implementation of new systems. Specifically, some of these projects involved development of academic content, research to benefit wildlife conservation, the effects of culture on technological advancements, and feasibility studies in the transportation industry. These projects were well-defined, could span multiple terms, and would allow WPI students to interact with Namibians.

After evaluating these sponsors, we ranked the Cheetah Conservation Fund, the Hanns Seidel Foundation, the NUST Faculty of Natural Resources and Spatial Sciences, the Namibia Housing Action Group, the NUST Faculty of Engineering, and the Namibia Development Trust as our top organizations based on their ability to sponsor and enthusiasm, and Physically Active Youth based on the expected quality of their proposed project. This ranking excludes D 2018 and A 2018 NPC sponsors as they are already in contact with the NPC Director. In addition to D 2018 and A 2018 NPC sponsors, we recommend that the NPC Director prioritize EduVentures, the Walvis Bay Corridor Group, the NUST Centre for Teaching and Learning, the NUST Faculty of Health and Applied Sciences, and TransNamib Holdings Limited, when searching for future sponsors.

We also recommend that MQP coordinators for WPI departments and programs continue communication with the 11 potential MQP sponsors. These sponsors proposed projects typically applicable to the WPI Foisie Business School, Computer Science Department, Civil & Environmental Engineering Department, Electrical & Computer Engineering Department, and Mechanical Engineering Department. The proposed MQPs involved student development of mobile applications and assistance to design and construct affordable housing. Other

organizations without project ideas are considering projects related to water treatment and distribution, power systems, constructing and designing cultural tourism buildings, business operations, and transportation. Based on the organizations that expressed interest in hosting MQPs, the WPI departments with the most project opportunities at the NPC are the Computer Science Department and the Civil & Environmental Engineering Department.

Other center directors and future IQP teams can modify our methods to be used at other project centers. Specifically, they can adapt our identification and communication methods to fit the culture of their center. They can also adjust our assessment tools to fit their main criteria and concerns. If these steps are taken at all project centers, the Global Projects Program will be in a position for sustained growth.

Authorship Page

Section	Primary Author(s)*
Abstract	Jessica Elder
Executive Summary	Stephanie Sontgerath
Introduction	Steffany Halfrey
Background	2.1 Stephanie Sontgerath 2.2 Jessica Elder 2.3 Steffany Halfrey 2.4 Matthew Moore 2.5 Matthew Moore
Methodology	3.1 Matthew Moore and Stephanie Sontgerath 3.2 Stephanie Sontgerath and Steffany Halfrey 3.3 Matthew Moore 3.4 Jessica Elder
Results	4.1 Stephanie Sontgerath and Jessica Elder 4.2 Steffany Halfrey and Jessica Elder 4.3 Steffany Halfrey and Matthew Moore 4.4 Steffany Halfrey
Recommendations & Conclusions	I Stephanie Sontgerath II Matthew Moore III Stephanie Sontgerath Summary Matthew Moore
Results Booklet	Jessica Elder
IQP and MQP Example Brochures	Jessica Elder
NPC Informational Flyer and Sponsor Guide	Steffany Halfrey

*All non-primary authors of a section were editors

Table of Contents

Table of Tables

Table of Figures

Chapter 1: Introduction

Students at Worcester Polytechnic Institute (WPI) have the opportunity to travel to off-campus locations to complete their Interactive Qualifying Project (IQP) and Major Qualifying Project (MQP). When students complete their IQP, they partner with an outside organization or project "sponsor" to complete a social science project related to science and technology. Students completing their MQP also occasionally work with outside sponsors on their major capstone project. The number of WPI students interested in traveling abroad for these projects has increased, and WPI's administration's goal is to enable more students to complete these projects. This has resulted in the creation and expansion of project centers, that subsequently require more sponsoring organizations to provide enough project ideas for WPI students. Some project centers must find and gather sponsors and projects for multiple terms, which is a challenge, because many sponsors are only able to support one project per year. Sponsors are also occasionally unwilling to continue working with WPI once a project is completed, usually because they lack resources or did not find the relationship beneficial. Due to these challenges, new sponsors must continually be found. This is a common problem amongst many project centers.

Students have completed projects through the Namibia Project Center (NPC) each spring for the past 16 years (Worcester Polytechnic Institute, 2018b). Due to the success and popularity of the NPC, which received 48 applications for 24 available spots for D Term of 2018, WPI has expanded the project center to include an additional term in the fall of each year and to establish MQP opportunities (R. Peet, personal communication, January 19, 2018; Worcester Polytechnic Institute, 2018f). This expansion will require more sponsors and projects, the latter of which can be supplied from committed and consistent sponsoring organizations. Although the NPC has found many sponsors to work with in the past, as with other centers, not all of these sponsors provide projects every year. The main reasons for inconsistent sponsor commitment at the NPC relate to limited funding and changes of leadership within the organizations.

At project centers that have experienced similar growth as the NPC, center directors and other IQP teams have examined sponsor relationships and projects. Some of these project centers include: New Zealand, Switzerland, Australia, and Ecuador (Richards et al., 2015; San Andres et al., 2016; Seely et al., 2017; Woodnorth et al., 2009; Zuccolo et al., 2016). Teams completed

IQPs at these centers to help develop new relationships with sponsors, measure the effectiveness of previous sponsor recruitment methods, and assess the impact of projects. Students used various methods of communication and evaluation at these centers, based on the center location and culture of the communities in which they reside. The teams used these methods to assess past sponsors' experiences with WPI and the IQP program, and to evaluate the likelihood of new sponsors to partner with WPI.

To maintain a project center, the center director should have an extensive list of contact information for potential organizations. The center director must also have a protocol to reach out to these organizations and strategies to explain the IQP in relatable terms. These organizations also need to be assessed, to determine their ability to host an IQP. Currently, R. Creighton Peet, the NPC Director, does not have a formal list of sponsors, marketing materials, or standardized methods to evaluate sponsors, their projects, and their experiences with WPI. The development of these tools will help create sustainable partnerships in the future.

With this project, we increased the number of sponsor relationships and project ideas for the NPC. We identified organizations to work with WPI students to complete IQPs and MQPs, and created marketing materials, which can be used in Namibia and adapted for other centers in the future. We have also reached out to past and current sponsors to assess their experiences with WPI and to gauge their interest in sponsoring future projects. We collected the contact information in a sponsor directory and created a booklet with organization summaries and our recommendations. These procedures, along with the sponsor directory and booklet, will improve the current process of acquiring new sponsors, and will assist the NPC Director to find future projects that will benefit WPI students and Namibian communities.

Chapter 2: Background and Literature Review

For over 40 years, WPI students have completed social-science projects around the world to further their education and help global communities. Specifically, the center in Windhoek, Namibia, hosts projects typically related to education, health, transportation, and the environment, that facilitate students' personal growth through involvement in community development. This chapter details information regarding the projects students complete at WPI, the knowledge we gathered for our project, and information about the Namibia Project Center (NPC).

2.1 IQP & MQP Information

In 1970, WPI implemented the WPI Plan (Dorsey, 1996). This plan was a radical new design for academics at WPI, and was meant to depart from conventional lecture teaching styles. The WPI Plan introduced two qualifying projects. These projects started out as broad requirements, explained simply as:

> at least two units established by Acceptable or Distinguished work in an advanced level activity involving Independent-Study or Project work. One of these units would have to be in the student's major field. An activity relating science or technology to society is recommended for the second unit.

> (President's Planning Group, 1969, p.4)

These two projects later became what the WPI community now refers to as the Interactive Qualifying Project (IQP) and the Major Qualifying Project (MQP). The WPI Course Catalog describes an IQP as "a project which relates technology and science to society or human needs" and an MQP as "a project in the major field of study" (Worcester Polytechnic Institute, 2017, p.14).

When the IQP and MQP were implemented as graduation requirements for students, faculty and students began searching for project ideas. The first projects were completed in Worcester and in the surrounding area. In 1974, WPI opened its first off-campus project center in Washington, D.C. (Durgin & Zwiep, 2000); 13 years later, the first overseas project center was opened in London. Since that time, the number of IQP and MQP centers available to students has

grown to 47 centers around the global, everywhere from Australia to Boston (Worcester Polytechnic Institute, 2018b; Worcester Polytechnic Institute, 2018d). The number of students completing off-campus projects has risen from one group of 24 students in 1974 to over 900 students each year (Worcester Polytechnic Institute, 2015; Baron, Andy & Brangan Mell, Eileen, 2017).

Global projects allow students to develop in both a professional and personal manner (Vaz & Quinn, 2014). This growth is achieved through the advancement of interpersonal and communication skills. In a study comparing WPI students who went through the Global Projects Program and those who did not, students were asked to answer how applicable a series of statements were to them. When asked if their project work enriched their lives, 70% of students who completed off-campus programs answered that their projects enriched their lives "much" or "very much", whereas only 28% of students who completed on-campus programs answered this way. Vaz and Quinn also found that a larger percentage of students who worked off-campus felt that they had improved presentation and communication skills. Overall, many more students who completed off-campus projects believed that they matured personally and professionally from their projects. Project completion helped to develop skills related to cultural awareness, self-efficacy, and professional success, as well as interpersonal, leadership, project management, and communication skills. Many of these students felt that they could apply these skills to their future careers.

WPI faculty members also experience positive effects from off-campus projects. When faculty advise projects on-campus, it is in additional to their typical work, and therefore is not their only focus (R. Vaz, personal communication, February 14, 2018). In contrast, off-campus projects allow faculty members to devote more attention towards successfully structuring projects. Faculty members can identify more strategies to improve project format than they may be able to on campus, and then bring some of these ideas back to their on-campus projects. For example, some faculty have adopted a calendar for deadlines, introduced interim presentations, and encouraged students to write multiple drafts of their report for off-campus IQPs. Adaptation and implementation of ideas has allowed these faculty members to shape the WPI project-based curriculum into its current state of success.

Although IQPs vary greatly in topic, scope, and deliverables, they all have a social and technical aspects. The main focus of the project is typically the social component, and may

involve technology through its social implications. For example, a 2017 project in Australia developed a plan for microplastic pollution monitoring in Port Phillip Bay (Bayas, Buckley, Ford, & Lawes, 2017). The team studied the social aspects of the plan and created informational materials and videos for use in the community. Another project team from 2017 studied the potential uses and usefulness of an electronic record system for the Armenian Eye Care Project (Alvarez, Dunn, Dunphy, & Lemmon, 2017). Despite having technical aspects, this project primarily involved social science research since the team studied the social impacts of the technology. While these two examples are related to the environment and health, IQPs can cover many topics such as education, transportation, safety, and agriculture. The deliverables between each project can range from a set of recommendations to a concrete product.

With ever-expanding participation in off-campus projects, more opportunities for global experiences have been created with the addition of off-campus MQPs (Worcester Polytechnic Institute, 2018c). WPI currently operates 14 MQP centers, nine of which are international. These centers range from computer science projects in Silicon Valley, to environmental engineering projects in Nancy, France. Off-campus MQP centers can be attended by students from 17 different majors, with some locations hosting multiple majors. For example, Panama City hosts projects related to civil engineering and environmental engineering, under the sponsorship of the Panama Canal Authority (Almonte et. al., 2016). Civil engineering and environmental engineering projects are also completed at Stantec, a consulting firm, in Burlington, MA (Beatty, Lund, & Robertie, 2010). A science, technology, and policy project completed in Hong Kong looked into the potential improvements to be made to Victoria Harbour (Muir, 2010). Off-campus MQP opportunities help meet the need for global projects, ultimately giving students more opportunities to complete a project off-campus.

2.2 Impact Assessment

An IQP's social component plays a role in its impact (S. Vernon-Gerstenfeld, personal communication, January 30, 2018). Even if a sponsor meets the logistical requirements to host an IQP as determined by WPI, the IGSD, and the center director, it is important to the NPC Director to have projects that reflect a social component addressing the current key problems in Namibia (R. Peet, personal communication, February 2, 2018). The goal of completing projects at the NPC is to provide an enriching experience for students, as well as have the possibility to

facilitate change in Namibia (R. Peet, personal communication, April 26, 2018). Although projects may positively impact their respective communities, the NPC has limited resources to follow impact assessment over multiple years, and IQPs are too short-term to address large-scale issues in Namibia. Therefore, the impact on WPI students when completing their IQP should be the primary focus for assessment, and impact on WPI and Namibian communities should be secondary (R. Vaz, personal communication, February 14, 2018).

2.3 Project Center Expansion

WPI's project centers must have enough sponsors to accommodate the students who would like to participate in the Global Projects Program (Worcester Polytechnic Institute, 2018a; Worcester Polytechnic Institute, 2018d). Directors at each center must devise methods based on the center's location and culture, to attract sponsoring organizations (R. Peet, personal communication, January 19, 2018; N. Bulled, personal communication, February 8, 2018). Center directors have reported difficulty when explaining the IQP during initial communications. For example, Professor Glenn Gaudette described the IQP as, "how science and technology intersect with society", and Professor Richard Vaz described it as the "general education capstone", in an attempt to make it easier to understand (personal communication, February 13, 2018; personal communication, February 14, 2018). Center directors use different methods to explain their specific center and WPI's required project requirements, to clarify the program goals and specifications to the sponsor. Directors accomplish this by referring to the IQP as a "community-based research project" and by stressing that students are not interns, but are receiving academic credit (L. Roberts, personal communication, February 21, 2018). Center directors evaluate organizations through personal communication and assessment of their resources, to determine if a partnership between WPI and a sponsor is feasible and beneficial for both parties, and WPI students.

Teams at various centers have completed IQPs with similar goals to ours, to determine methods of communication with sponsors, assess sponsors, and evaluate project impact (Richards, Keyes, Creaghan & Smith, 2015; San Andres, LaFlamme, Espinoza & Cederberg, 2016; Seely, Day, Cochran & Carlson, 2017; Woodnorth, Whorton, Nesbitt, Heller & Fancher, 2009; Worcester Polytechnic Institute, 2018e; Zuccolo, Henson, Filippou & Callahan, 2016). Four IQPs at the Wellington, New Zealand Project Center (NZPC), the Switzerland Project

Center (SPC), the Melbourne, Australia Project Center (MPC), and the Cuenca, Ecuador Project Center (EPC) are examples of this project type completed within the past 10 years, and are diverse representations of WPI's international project experience.

The IQPs conducted at the NZPC and the EPC assessed the feasibility of establishing project centers in these countries. (Woodnorth et. al., 2009; San Andres et. al., 2016). Therefore, these projects evaluated both WPI's requirements for a project center and the potential projects at that center. The NZPC team created an assessment protocol for potential sponsors, which consisted of positive and negative characteristics of each organization, and an evaluation of an organization's willingness to sponsor projects (Woodnorth et. al., 2009). Sponsors were evaluated on perceived willingness and stated willingness, then given a qualitative score of likelihood to sponsor a project (Table 2.1).

Table 2.1: Sponsor evaluation matrix used in Wellington, New Zealand (Woodnorth et.al, 2009, p. 57).

		Stated Ability/Willingness to Sponsor	
		High	Med/Low
Perceived Ability/Willingness to Sponsor	High	Highly Likely to Sponsor	Somewhat Likely to Sponsor
	Med/Low	Somewhat Likely to Sponsor	Unlikely to Sponsor

The EPC team also developed tables for their sponsor assessment (San Andres et. al., 2016). This team used a qualitative metric to evaluate sponsors. However, they created several tables to analyze different criteria. They evaluated sponsors using the tables to determine whether the sponsor fit the criteria, and their degree of fit (Table 2.2).

Table 2.2: Sponsor evaluation matrix used in Cuenca, Ecuador (San Andres et al., 2016, p. 34)

Sustainability of the project site.		
Yes	**Maybe**	**No**
There are available projects that will last for 3 years or more.	There are available projects that will last for approximately 2 years.	There are available projects that will only last a year.
The project site is under strong leadership.	The project site is loosely led.	The project site is poorly led.
The project site has strong community support.	The project site has some community support.	The project site is controversial in the community.
The sponsor understands the need for consistent education for students throughout the years the project site is running.	The sponsor mildly understands the need for consistent education for students throughout the years the project site is running.	The sponsor cannot guarantee consistent education for students throughout the years the project site is running.
The project is new and innovative. There is room to grow.	The project has been worked on before but there is still room to grow.	The project has been worked on previously. There is minimal room to grow.

In this instance, the team referred to the organization being evaluated as the "project center". The EPC team's metrics contain more evaluation criteria than the NZPC team's, which allowed them to compare specific sponsor characteristics. In addition to sustainability, the team assessed three other criteria: impact on the community, interest of the sponsor, and overall suitability. The EPC team's metrics also allowed for more detail and variance for each criterion than the NZPC team's method of sorting sponsors into categories. This made comparing and ranking potential sponsors more straightforward.

The IQPs completed at the SPC and MPC were general appraisals of these project centers, specifically to recommend methods of improvement and expansion (Richards et. al., 2015; Zuccolo et. al., 2016; Seely et. al., 2017). The SPC IQP team refined the marketing methods used to establish sponsor relationships (Richards et. al., 2015). They contacted multiple sources including sponsors, WPI students, and WPI faculty and staff, to gain insight on important information to include in their marketing materials. They found that most sponsors wanted more information about the IQP, specifically regarding the timeline of the IQP process and feedback for project proposals that were not selected. Using this information, the team then created a series of marketing materials for reuse at the SPC. These included:

- A sponsor guide defining the responsibilities of a WPI partner,
- An informational flyer highlighting key aspects of the IQP and important dates,
- A PowerPoint presentation to explain the IQP to prospective sponsors, and
- A packet containing sample abstracts of past IQPs.

The two IQP teams at the MPC assessed the impact of past projects and sponsor relationships (Zuccolo et. al., 2016; Seely et. al., 2017). The 2016 team investigated project impacts through surveys of MPC alumni and interviews of past sponsors (Zuccolo et. al., 2016). They asked questions regarding both impact on the student and impact on the community. Their team organized the information into a database of project reports, sortable by theme, sponsor type, and deliverables. Both teams then developed marketing materials to provide to sponsors and potential MPC students. The 2016 team made a project center events timeline, a map of sponsors, and an IQP informational pamphlet. The 2017 team developed a website for the project center, informational videos, a Facebook group, and a YouTube channel, to present further information about the MPC (Seely et. al., 2017).

These five IQPs provide helpful insight into communication strategies with sponsors and techniques for sponsor assessments. Although these centers differ, problems that arise from sponsor inconsistency and project quality are present at all project locations.

2.4 Background on Namibia

An organization's ability to address their country's fundamental problems and history is important when evaluating a sponsor (N. Bulled, personal communication, February 8, 2018). Therefore, it is common for center directors to find sponsors by identifying the major challenges faced by the communities that their centers serve. The NPC Director, also considers this when looking for projects. For this reason, we researched some of the current problems in Namibia to direct our search for sponsoring organizations. Namibia struggles with poverty, education, a problematic climate, and insufficient access to healthcare (Nguvenjengua, 2017).

Nearly a third of the population of Namibia is in poverty (28%). Although the poverty rate is lower in urban areas of the country (about 14%), it increases in the more rural areas, such as the Kavango and the Kunene Regions (about 37.5%), where over half of the population lives (Figure 2.1). High poverty rates in the rural regions of Namibia are also accompanied by

problems with unemployment, sanitation, energy availability, and safe water availability
(Nguvenjengua, 2017). As of 2016, the unemployment rate had increased to 34% from 28.1% in
2014 (Trading Economics, 2018). As of 2015, only 24% of households in rural areas had access
to electricity, compared to 75% of households in urban areas. In addition, in the most rural areas
of the Kavango the percentage of households with access to safe water can be as low as 11%,
and access to sanitation can be as low as 6.1%.

Figure 2.1: Map of the distinctive regions of Namibia (Katangais, 2017)

Namibia has relatively widespread and effective education for younger generations;
however, secondary schools are limited, which reduces the number of children able to attend
college or university (Garrouste, 2011). Since schooling is only required between the ages of six
and 16, many Namibians' level of education limits which occupations they can to hold. Thus,
these individuals resort to careers in unskilled labor such as mining and farming. Some Namibian
organizations have attempted to increase educational opportunities for children in rural areas of
Namibia, as well as educate teachers on lessons they can use in their classrooms, in hopes of
better education as a whole (Pelissari et. al., 2017).

Namibia's climate plays a role in the environmental and economic challenges that
Namibians face, and has been the subject of multiple IQPs. Considerable problems such as

erosion and flood damage arise from Namibia's dry climate, combined with sudden, intense periods of rainfall (Reid et. al., 2008). This damage affects Namibia's agricultural sector, as entire landscapes containing crops and cattle can be destroyed.

Another challenge faced by Namibians is limited access to healthcare. This is shown by the HIV/AIDS crisis. Prior to 2004, Namibia received adequate funding from the Global Fund and the President's Emergency Plan for AIDS relief (Cairney, 2014). However, in the years following, there was a significant scale-down in donor funds, from which the program was not able to recover. Organizations that work to combat the virus and administer testing are currently struggling to fund their operations, and to educate individuals on the importance of being screened. Namibians continue to struggle to eradicate HIV/AIDS despite the efforts of these organizations, due to the social stigma behind treatment and being diagnosed. Because of this social stigma, many individuals are unaware they carry the disease and spread it unknowingly. To combat the spread of HIV/AIDS, research needs to be completed to determine the reasons for reluctance to be treated or diagnosed. Outside of HIV/AIDS, there are organizations working to provide general healthcare to Namibians in rural areas or those who cannot afford it.

Poverty, education, climate effects, and healthcare access are some pertinent problems in Namibia. These problems, as well as others, guided our search for sponsoring organizations.

2.5 Summary

WPI students have completed projects across the globe for over 40 years. These projects help students to grow professionally, and to learn about other cultures. As the Global Projects Program expands, it is important for center directors to have a sufficient number of projects. These projects, as well as the project sponsors, must be properly assessed, and should address key issues within the center's society. Our team identified a lack of a systematic method to form IQP and MQP sponsor relationships in the Global Projects Program. We will address the methods we developed to identify, assess, and communicate with organizations in more detail in the next chapter.

Chapter 3: Methodology

As the Namibia Project Center (NPC) grows and faces the challenge of inconsistent sponsorship, our goal was to develop sponsor relationships and find projects for the NPC. To achieve this goal, we:

1. Identified potential IQP sponsors,
2. Determined methods to maintain sponsorship through marketing strategies and communication protocols,
3. Created a foundation for MQPs by identifying applicable sponsors and WPI academic departments.

In this chapter, we will outline the methods we used to achieve our objectives and reach our goal.

3.1 Identify Potential IQP Sponsors

The NPC is expanding, making it important to identify new sponsors capable of hosting IQPs. An organization's project must meet the educational requirements of an IQP to be considered. Organizations should also meet WPI's non-educational requirements to host an IQP, and should have space for students to work and an organization liaison. The projects should also be beneficial to sponsors as well as students, so that students can have a worthwhile experience and the sponsors will continue to work with WPI. We identified potential sponsors using a variety of methods, such as online searches and networking through current sponsors, and developed sponsor and project impact assessments to evaluate the criteria above. We assessed organizations using the metrics we created, and used the results to make a sponsor directory and booklet of organization summaries reflecting their relative strengths in each criterion, and a sponsor directory containing each organizations' contact information.

3.1.1 Identification Methods

We used three methods to identify potential sponsors in Namibia: self-search, suggestions from the NPC Director, and suggestions from other contacts. Self-search consisted of our team using search engines to find organizations related to some prevalent issues in Namibia, as we

outlined in Chapter 2. R. Creighton Peet, the NPC Director, provided our team with many suggestions of past, current, and new organizations to meet with. We also received suggestions for additional organizations to meet with from contacts, such as WPI faculty, organization liaisons that we met with, and other project teams. We identified these search methods by interviewing a series of center directors, specifically:

- Professor Emeritus Arthur Gerstenfeld, Co-Founder and former Co-Director of the NPC, and Founder and former Director of the Wall Street Project Center,
- Assistant Teaching Professor Nicola Bulled, Director of the Cape Town Project Center,
- Associate Teaching Professor Dominic Golding, Director of the London and Nantucket Project Centers, and
- Laura Roberts, Assistant Director of the Worcester Community Project Center.

We interviewed these center directors because they have experience in situations similar to the NPC's. Arthur Gerstenfeld and Nicola Bulled have both built sponsor relationships with organizations in developing countries; Dominic Golding and Laura Roberts have to find project opportunities for their centers in multiple terms each year. These center directors advised our team to determine which organizations address Namibia's prevalent challenges by researching their respective purposes (A. Gerstenfeld & S. Vernon-Gerstenfeld, personal communication, January 30, 2018; N. Bulled, personal communication, February 8, 2018; L. Roberts, personal communication, February 20, 2018; D. Golding, personal communication). They also recommended that we interview current sponsors for suggestions of other organizations able and willing to partner with WPI. Based on this advice, we used search engines to find the purposes of all organizations that we identified and always asked organizations for suggestions.

In addition, our team sent a survey to 2016 and 2017 NPC students, and interviewed D 2018 NPC students, to gain students' perspectives on their relationships with their sponsors. We asked questions regarding the sponsor's enthusiasm, clarity, and communication with the students. The survey results revealed some negative experiences with organizations, and thus our team did not pursue these entities. These negative experiences included liaisons that did not

support the team by answering questions or being present at meetings, as well as organizations that provided projects that were either too broad or too narrow to qualify as an IQP.

To keep track of and to simplify our future sponsor communications, we cataloged the contact information of the organizations that we found into a sponsor directory. Our methods of self-search and contacts' suggestions helped us find sponsoring organizations in a targeted manner.

3.1.2 Sponsor and Project Analysis

WPI must be confident in an organization's ability to host projects and provide students with the resources to complete the project. We identified three key criteria from similar IQPs and advice from center directors. They are: Ability to Sponsor, Sponsor Enthusiasm, and Expected Project Quality.

The first criterion we evaluated was the organization's ability to sponsor a project, which means that an organization meets WPI's requirements to host an IQP. Organizations may require resources to support a project, which can consist of funding for any travel, a liaison for students to work with in Windhoek and in the field, a work space for the students, and other amenities such as internet access (R. Peet, personal communication, January 19, 2018).

The second criterion we evaluated is sponsor enthusiasm. This involves stated and perceived willingness, based on our interactions with organizations' representatives during meetings. We noted sponsors who explicitly expressed interest in supporting a project, sponsors who declined, and their level of engagement during our meeting. We also noted follow-up communications, but did not consider a lack of follow-up contact as a sign of disinterest.

The third criterion is the expected project quality, which reflects the availability, suitability, and sustainability of projects. Project availability means that the organization has projects that WPI students could work on. A project is suitable if it has the educational value to qualify as an IQP, and is typically related to the effects of technology on society. Projects can be simplified or made more complex to fit the scope of an IQP. These projects must also have some educational value for the students. Ideally, these projects are sustainable, meaning they would span multiple years, so multiple groups could work on them. This is not a requirement of the project, but makes the project more desirable.

We created a sponsor analysis which consisted of two metrics of yes/no questions. One of these metrics evaluated Criterion 1, Ability to Sponsor (Figure 3.1), and the other assessed Criterion 2, Sponsor Enthusiasm (Figure 3.2). The Criterion 1 metric contained questions concerning the organization's purpose, community involvement, ability to communicate with the NPC Director and WPI students, and resources. The Criterion 2 metric contained questions pertaining to the stated willingness to partner with WPI, perceived enthusiasm, and engagement during our meetings with the organizations' representatives.

Within the assessments, we indicated which response was favorable for each question (Figure 3.1 and 3.2). For each positive response, the organizations gained a point. For example, if question one for Criterion 2, "Did the sponsor explicitly state their willingness to work with WPI?", had the answer "yes", per the scoring guide they receive a point as this is the desired answer. If we answered maybe or somewhat for a question, this was indicated with a score of 0.5. This scoring system resulted in a highest possible score of eight for Criterion 1 and five for Criterion 2.

Question	If Y:	If N:
1. Does the purpose of the organization align with the goals of the project center?	+1	0
2. Has the organization had a positive impact on the community?	+1	0
3. Can the sponsor easily communicate with the center director and the project team?	+1	0
4. Does the sponsor have the resources to support a project? (office space, transportation, housing and liaison for any fieldwork)	+1	0
5. Did the organization mention limited funding?	0	+1
6. Did the sponsor provide ideas for projects? (If yes, fill out the S.W.O.T. Analysis for each idea.)	+1	0
7. Does the organization have a project coordinator that could act as a liaison for the students?	+1	0
8. Has the organization had student interns/workers in the past?	+1	0

Figure 3.1: Sponsor assessment for Criterion 1, Ability to Sponsor

Question	If Y:	If N:
1. Did the sponsor explicitly state their willingness to work with WPI?	+1	0
2. Did the sponsor explicitly decline to work with WPI?	0	+1
3. On a scale of 0-2, what was the team's perception of the sponsor's enthusiasm? (0 being low/no enthusiasm, 2 being high enthusiasm)	1-2	0
4. Was the contact person engaged during the meeting? (taking notes, asking questions, etc.)	+1	0

Figure 3.2: Sponsor assessment for Criterion 2, Sponsor Enthusiasm

We scaled the scores for Criterion 1 and 2 to reflect a scale of 0-1, to allow us to compare each organization based on each criterion. Then, we weighed Criteria 1 and 2 based on importance, and used these to obtain a total weighted score for each organization. Our team determined the importance of each criterion through communication with WPI project center directors, and other WPI faculty and staff. We gave Criterion 1, Ability to Sponsor, a weight of 67%, while we gave Criterion 2, Sponsor Enthusiasm, a weight of 33%. We determined that Criterion 1 should be weighted as twice as important as Criterion 2 because organizations that do not have a purpose that aligns with the goal of the NPC, the ability to communicate with the NPC Director and WPI students, or the required resources may not be able to host an IQP. We weighted Criterion 2 less than Criterion 1, because it is difficult to accurately evaluate enthusiasm, particularly in a different culture than our own. Also, we typically met with only one or two members of an organization, which is not a representative sample of the organization's interest as a whole. We combined the scaled scores from Criteria 1 and 2 into an overall weighted score, a fraction out of one, to compare all organizations (Figure 3.3).

Organization: Men on the Side of the Road (MSR)

Criterion	Score	Scaled Score	Weighted Score
Ability to Sponsor	7/8	7 ÷ 8 = 0.875	0.875 × 0.67 = 0.586
Sponsor Enthusiasm	4/5	4 ÷ 5 = 0.8	0.8 × 0.33 = 0.264
		Total:	0.85

Figure 3.3: Example of scoring process

Our team evaluated Criterion 3, Expected Project Quality, using a S.W.O.T. analysis (Figure 3.4). A S.W.O.T. analysis is used to assess a project's strengths, weaknesses, opportunities, and threats (Verboncu, 2016). These elements are applied to the stakeholders involved and to the environment in which the project would be completed. The potential for success and degree of impact are determined by comparing the positive aspects of a project to the negative aspects. We analyzed elements such as: the benefits of the project, the project's influence on future projects, and the potential negative environmental or societal effects. The stakeholders are: the sponsoring organization, Namibian communities, WPI, and WPI students. Our S.W.O.T. analysis (Figure 3.4) consisted of a series of yes/no questions, which allowed us to evaluate the potential success of the proposed projects based on potential opportunities and threats.

	Opportunities (external, positive)	**Threats (external, negative)**
Strengths (internal, positive)	1. Will the project bring about other potential projects? 2. Will the project positively affect the environment, economy, society, etc.? 3. Will the project build WPI's positive off-campus projects reputation? 4. Will the project allow for students to express their talent and knowledge? 5. Will the project allow for students to experience the culture? 6. Will the people of Namibia receive any benefits from the project?	1. Will the project pose a threat to the safety and well-being of the students? 2. Will the project's sponsor pose a threat to WPI's reputation? 3. Will the project negatively impact the environment, economy, society, etc.? 4. Will the people of Namibia experience any difficulties that may accompany the project? 5. Will the tasks/knowledge required for the completion of the project result in negative feedback from the community or the sponsor?
Weaknesses (internal, negative)	1. Although the project's scope may be unrealistic for a one-term completion, will students in the future be able to complete other parts of it? 2. Will the funding of this project be realistic for WPI and the organization? 3. Is the project idea well-defined enough that is does not require any additional planning? 4. Will the project offer an opportunity for collaboration with another organization in Namibia?	1. Will the project not qualify as an IQP? 2. Will the incompletion of the project, due to its nature, result in a negative relationship with the sponsor? 3. Is the subject/problem too broad for students to identify a specific project goal when communicating with the sponsor? 4. Will students be at risk of negatively impacting areas of Namibia because of the circumstances or lack of direction of the project?

Figure 3.4: S.W.O.T. analysis for Criterion 3, Expected Project Quality

Ultimately, we wanted yes responses for opportunities, and no responses for threats. We then gave the project a total score out of 19, one possible point for each ideal answer. Because some organizations did not provide project ideas, we felt that this should not affect a sponsor's overall rank, thus we chose to rank proposed projects separately. We also spoke to the organizations about projects nearly a year in advance; project ideas will likely change. We scaled the scores for Criterion 3 to a scale of 0-1, which allowed us to compare the proposed projects.

We then summarized each sponsor we met with in a booklet, which contained the organization's contact information, their purpose, past projects, our recommendations, and our scores for the organization and any proposed projects. We also added each organization's contact information to a sponsor directory. We then gave this booklet and the sponsor directory to the NPC director, who will contact, or meet with, the proposed sponsors in the future.

3.2 Maintain Sponsorship

Sponsoring organizations are integral to the IQP process, thus the center director should have a repository of sponsors to reach out to in order to arrange enough projects per project term. This allows the center director to more easily find additional project opportunities, if other sponsors are not able to host additional projects. Therefore, communication and feedback protocols are essential to ensure a surplus of project ideas. To allow for clear communication, our team used a sponsor directory to maintain the contact information of sponsors, developed sponsor interaction protocols, and noted what sponsors need from WPI. Through sponsor interactions, we were able to recommend updated protocols for future use at the NPC that can also be adapted for other project centers.

A large portion of our project involved remote and in-person sponsor interactions. Thus, it was important for us to have a clear procedure for these interactions. After we identified as many potential sponsors as possible, we contacted each organization to set up meetings to discuss project opportunities (Figure 3.5).
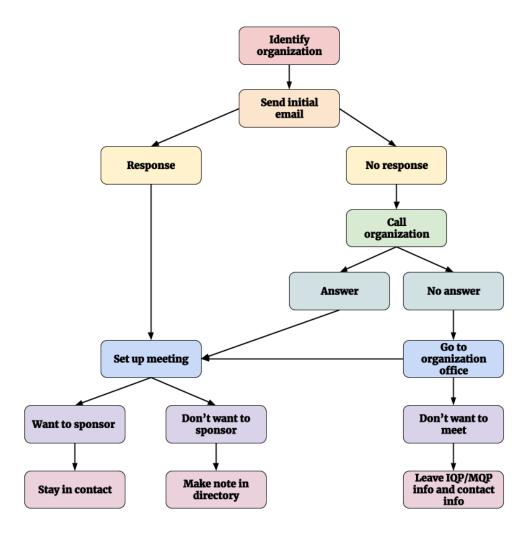
Figure 3.5: Sponsor interaction steps

We first made contact with organizations via email. In this email, we described who we are, an outline of the IQP, and the expectations of each organization. If the organizations responded to this email, we attempted to set up a face-to-face meeting. If the sponsor did not respond to email within a week, we called. If the sponsor expressed interest, we set up a face-to-face meeting to discuss further questions and establish a rapport. If the sponsor did not respond to either form of initial contact, we went to the organization's office to set up a meeting. If they were not interested in sponsoring a project, we did not attempt further communication. If they were not able to meet when we visited, we left hard-copies of our marketing materials and contact information. We also provided electronic copies of these materials in our follow-up

communications. We tracked all forms of communication in a contact log, including emails, phone calls, and meetings.

We developed a protocol for sponsor interactions that was generally followed, but due to the methods we found most successful, we altered these steps three weeks into our project. Our revised method was to either call or send an initial email, then to go to the office if we received no response. Limited phone call responses, time constraints, and the number of initial contacts we made when we dropped in on organizations, made this tactic more efficient for our team.

Every meeting was different, however the main topics we discussed were similar. With past or current sponsors, we asked about their experiences working with WPI, and for information that they found useful during the project they hosted or wished that they were given before hosting a project. With new sponsors, we explained our project and the WPI project-based curriculum in greater depth than our initial contact. We did this by using our marketing materials to supplement our verbal explanation. With every sponsor, we then asked questions that aligned with the metrics we created to assess Ability to Sponsor, Sponsor Enthusiasm, and Expected Project Quality. We concluded each sponsor meeting by asking for suggestions of other organizations that may want to work with WPI. We then referred sponsors who expressed interest in working with WPI to the NPC director, and informed them of his upcoming visit in August.

We created marketing materials including a NPC informational flyer, brochures with examples of past IQPs, and a sponsor guide. We did this using information from previous IQPs that we detailed in Chapter 2 and from interviews with WPI center directors and IGSD staff. We made prototypes of these materials prior to leaving for Namibia. Although we planned to update them, we found this was unnecessary. Our team used these materials to explain the IQP, show the requirements and flexibility of projects, and outline sponsor requirements. The materials are reusable for future interactions with potential sponsors in Namibia, and can be adapted for use at other project centers.

3.3 Foundation for MQPs

Our team also determined which organizations have the potential to host an MQP. When interviewing organizations interested in hosting IQPs, if the organization suggested a project idea that was more technical or more applicable for an MQP opportunity, we introduced the MQP to

them. We also contacted organizations that were suggested to us for MQP opportunities, either because of the organization's stated interest in partnering with WPI to our mutual contact, or because of a specific project at that organization. We considered project ideas as more likely to qualify as an MQP if they lacked social science research, required more technical knowledge than those found in IQPs, or had a deliverable that would require the knowledge of students with certain academic majors.

Although sponsors interested in hosting IQPs, as well as MQPs, were evaluated using the sponsor analysis we described in Section 3.1.2, we did not complete a sponsor analysis for organizations only interested in hosting MQPs or rank potential MQP sponsors. This is because the resources and requirements to host MQPs vary by project, and our assessment only targets the requirements specific to IQPs. Instead, we collected the potential MQP topics along with the organization's purpose and identified relevant WPI departments with which each organization would work.

We used methods similar to those described in Section 3.2 to market the MQP. We used the same informational flyer, a separate brochure with example MQPs, and the sponsor guide. We then forwarded the project ideas to the NPC Director and Dr. Aaron Sakulich, one of our team's NPC advisors and the Director of the Iceland and Panama Project Centers, so that the information could be passed on to relevant WPI faculty. These faculty members will then decide whether or not they would like to pursue the opportunity. We also emailed 24 WPI departments and programs to gauge the need for off-campus MQPs, as well as interest in MQPs in Namibia. These MQPs have the potential to impact the Namibian community in a different way and on a larger scale, than an IQP. MQPs would allow for more projects in Namibia, and would help meet the growing need for global opportunities at WPI.

3.4 Summary

As the NPC grows and faces inconsistent sponsorship, it is important to increase and maintain the number of potential partnerships. After our team determined potential sponsoring organizations, we marketed the IQP to new sponsors and the MQP to all relevant sponsors. We then evaluated each sponsor and IQP idea, and assessed each organization's overall suitability to partner with WPI. Our project will facilitate the sustainable growth of the NPC, and provide a basis for other center directors and future IQP teams.

Chapter 4: Results

We used our methods to identify, evaluate, and communicate with Namibian organizations, which enabled us to determine which organizations are willing and able to host projects for the NPC. We ranked these organizations using our sponsor analysis scoring system, based on Ability to Sponsor and Sponsor Enthusiasm, Criteria 1 and 2. We ranked the proposed projects on Expected Project Quality, Criterion 3. We then relayed this information to Professor R. Creighton Peet, the NPC Director, and other WPI faculty and staff. The following sections outline the data we collected.

4.1 Identify IQP Sponsors

Our first objective was to find organizations in Namibia and evaluate their ability to partner with WPI. We used three methods to identify sponsors, and tracked our use of each method to determine which resulted in the most meetings. We scored each organization based on three criteria, then gave them an overall weighted score, as we described in Chapter 3. We compiled the names and purposes of each organization (Table 4.1).

Table 4.1: Organizations identified and purposes
(Organizations we met with are marked in orange and organizations we were unable to meet with
are marked in pink, all purposes obtained from organization websites, listed in Chapter 6)

ORGANIZATION	PURPOSE
Automobile Association of Namibia (AA)	Provides motoring amenities and facilities to its members
Beautiful Kidz	Provides support and education to children in need and their families
Cheetah Conservation Fund (CCF)	To maintain the wild cheetah population
City of Windhoek	Promotes businesses, residential areas, and tourism
Desert Research Foundation of Namibia (DRFN)	Focused on sustainable development in arid lands
EduVentures	Provides rural areas with environmental education
Elimination 8	Provides malaria testing and treatment in rural areas of eight south African countries
Elite Employment	An employment recruitment agency in Namibia
Environmental Investment Fund (EIF)	Invests in multiple organizations focused on the environment
FP du Toit	A transport group and freight company
Friedrich Ebert Foundation	Facilitates political and social education, and provides scholarships
Gobabeb Research and Training Centre	Conducts research on many issues related to the desert and arid land
Hanns Seidel Foundation (HSF)	Promotes democratic, environmental, and economic advancement
Healthworks	Provides wellness services to employees to promote a healthy workforce
Institute of Public Policy Research (IPPR)	Completes research into social, political, and economic issues in Namibia
Integrated Rural Development and Nature Conservation (IRDNC)	Diversifies the socio-economy of wildlife and natural resources topics to improve the lives of rural people
Labor Resource and Research Institute (LaRRI)	Promotes political and economic independence of working individuals
Men on the Side of the Road (MSR)	Connects unemployed Namibians to job and training opportunities
Michelle McLean Children Trust (MMCT)	Encourages children to recognize beneficial opportunities
Ministry of Agriculture, Water, and Forestry (MAWF)	Uses Namibia's agriculture, water, and forest resources, sustainably and equitably, for improved livelihood, well-being, and wealth
Ministry of Fisheries and Marine Resources (MFMR)	Manages Namibia's fishing industry
Ministry of Land Reform (MLR)	Ensures that Namibia's land resources are managed efficiently
Ministry of Veterans' Affairs (MOVA)	Initiates projects and programs to assist veterans

Namibia Development Corporation (NDC)	Promotes a society made up of self-managed and sustainable companies
Namibia Development Trust (NDT)	Promotes self-management through participatory development
Namibia Housing Action Group (NHAG) / Shack Dwellers Federation of Namibia (SDFN)	To improve living conditions for those without commercial housing
Namibia Nature Foundation (NNF)	Promotes the conservation of biological diversity and natural resources
Namibia Tourism Board	To market and develop tourism and improve the standard of living
Namibian Olympic Committee	To organize and plan participation of Namibian athletes in the Olympic and Commonwealth Games
NamPower	Allows bulk electricity to be supplied to local establishments and mines
NamWater	Supplies water to industries, municipalities, and the Directorate of Rural Water Supply
National Art Gallery of Namibia (NAGN)	To preserve and encourage art in Namibia
National Botanical Research Institute (NBRI)	Promotes the conservation and sustainable use of Namibian plants
National Theater of Namibia	Promotes the art of theater throughout Namibia
National Youth Council (NYC)	Promotes national unity and awareness of current day culture and politics for Namibian youth
NUST Centre for Teaching and Learning (NUST CTL)	To better teaching and learning abilities of NUST faculty and students
NUST Faculty of Engineering (NUST Eng)	Oversees the Departments of Civil & Environmental Engineering, Electrical & Computer Engineering, Mechanical & Marine Engineering, and Mining & Process Engineering
NUST Faculty of Health and Applied Sciences (NUST H&AS)	Oversees the Departments of Mathematics & Statistics, Health Sciences, and Natural & Applied Sciences
NUST Faculty of Management Sciences (NUST MS)	Oversees the Departments of Marketing & Logistics, Accounting, Economics & Finance, Hospitality & Tourism, and Management
NUST Faculty of Natural Resources and Spatial Sciences (NUST NR&SS)	Oversees the Departments of Agriculture & Natural Resources Sciences, Architecture & Spatial Planning, Geo-Spatial Sciences & Technology, and Land & Property Sciences
Owela Museum	Educates visitors about Namibia's diverse natural and cultural history
Physically Active Youth (PAY)	Promotes life skills and physical activity for children through after-school program
Sister Namibia Collective	Promotes gender equality
TransNamib Holdings, Ltd.	Provides freight and passenger services by rail and road
Walvis Bay Corridor Group (WBCG)	Promotes the utilization of the network of transport corridors in Namibia
Windhoek Vocational Training Center (WVTC)	Provides Namibians with vocational training
Women at Work	Administers high quality training to women to enable employment

4.1.1 Identification Methods

We identified 46 organizations that were suitable to host IQPs based on their organization's stated purpose, and kept a record of our identification methods and communications in a contact log. These organizations consisted of 12 educational institutions, 16 non-profit organizations, eight for-profit organizations, eight government agencies, one political foundation, and one Feminist and Women's Rights Group. Of the organizations we contacted, we found 14 through self-search, such as using an online search engine, 17 through suggestions from the NPC Director, and eight through a mutual contact, such as a current or former center director or an organization liaison. Furthermore, we found four organizations through both the NPC Director's suggestions and through a mutual contact, and three through a mutual contact and self-search. From these data, we found that we used suggestions from the NPC Director most frequently. One, or 7.1%, of the organizations found through self-search responded to our initial communications, while seven, or 41.2%, found from the NPC Director's suggestions responded, and two, or 25%, found from a mutual contact responded. Three, or 75%, responded that were suggested by the NPC director and a mutual contact, and zero responded that were suggested by a mutual contact and found through self-search. Individually, a suggestion from the NPC Director was the most effective method for receiving response to initial communications.

4.1.2 Sponsor and Project Analysis

We met with 19 potential IQP sponsors, but assessed 20, and we scored organizations based on two criteria: Ability to Sponsor and Sponsor Enthusiasm. Although we were unable to meet with the current sponsor EduVentures, we were able to analyze them based on interviews with the two D 2018 teams. We then compared each organization using their score for each criterion and their overall weighted score. We used the overall weighted score to rank organizations on their capability and likelihood to partner with WPI. We then used our third criterion, Expected Project Quality, to rank all proposed projects.

We gave the organizations a score based on a series of yes/no questions to evaluate Criterion 1 (Figure 3.1). Of the organizations that we assessed, those that we ranked higher typically had a reliable source of funding, project ideas, and a clearly defined project coordinator that could be used as a project liaison (Figure 4.1). For example, the Hanns Seidel Foundation had multiple project ideas, and a stable source of funding. Organizations that we ranked lower

typically had limited funding, or did not have an area of project work for WPI students. For example, the Healthworks representative stated that they have limited funds, and we ranked their enthusiasm a one out of two.
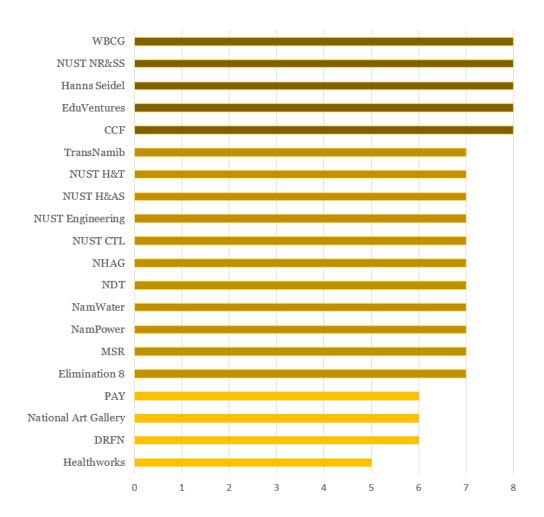

Figure 4.1: Scores for Criterion 1, Ability to Sponsor

The second criterion we evaluated was Sponsor Enthusiasm (Figure 4.2). We analyzed this using another series of yes/no questions (Figure 3.2). Of the potential IQP sponsors that we interviewed, 15 out of 20 organizations stated willingness to work with WPI in the future, four organizations did not explicitly state interest or decline a partnership, and the DRFN declined. We based this criterion on the contact person's stated and perceived level of interest and their engagement during the meeting. Our team cannot determine the exact level of a sponsor's enthusiasm, as we cannot accurately quantify body language and attitude, especially in a foreign

culture. We noted follow-up communications, but did not use these as a way to assess a sponsor's enthusiasm. The contact person's personal habits and cultural differences in terms of normal email response times, may affect follow-up responses without meaning lowered interest.

Figure 4.2: Scores for Criterion 2, Sponsor Enthusiasm

We then created an overall weighted score for each organization using their scores for Criteria 1 and 2 (Figure 4.3). We assigned Criterion 1, Ability to Sponsor, a weight of 67% and Criterion 2, Sponsor Enthusiasm, a weight of 33%. We then displayed the overall weighted score as a fraction out of one. From this evaluation, we were able to rank all organizations that we met with in order of suitability to sponsor projects.

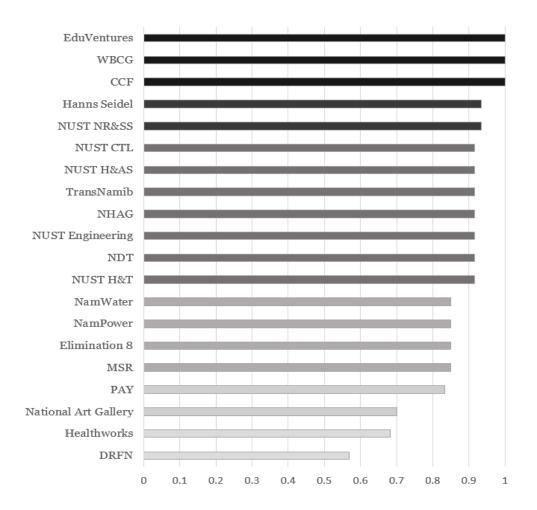**Figure 4.3:** Organization overall weighted score based on Criteria 1 and 2

The top six organizations were:

1. EduVentures
2. The Walvis Bay Corridor Group
3. The Cheetah Conservation Fund
4. The Hanns Seidel Foundation
5. NUST Faculty of Natural Resources and Spatial Sciences
6. NUST Centre for Teaching and Learning

We emphasized six organizations because there are, at most, six IQPs per term at the NPC. These organizations typically had the necessary resources to host projects and are enthusiastic about working with WPI. The most important organizations in this list are the new relationships made or the renewed connections to past sponsors. Whereas the NPC Director is in touch with the current or very recent sponsors, he can now also begin communication with all newly identified organizations to set up projects for the future.

The final criterion we evaluated was Expected Project Quality, which we assessed for 16 of the proposed projects (Table 4.2). This criterion refers to the impact that a proposed project will have on a student, the organization, or the community, thus this is a main component in determining an organization's potential success as a sponsor.

Table 4.2: Organizations and proposed IQP ideas

ORGANIZATION	PROJECT(S)
Cheetah Conservation Fund	• Research types of firewood currently available and prices of local products to help the Bushblok initiative (blocks to fuel fires made out of thorny, invasive plant species that hurt cheetahs)
Elimination 8	• Data analysis protocols and systems with data collected at malaria border clinics*
The Hanns Seidel Foundation	• Developing online modules related to civic education for schools and universities • Developing educational and marketing materials for the Promoting Renewable Energy in Namibia Project
Men on the Side of the Road (MSR)	• Research and provide recommendations to help MSR receive a fishing quota from the Ministry of Fisheries and Marine Resources to increase job opportunities
NamWater	• Research reasons why certain people do not want to pay for water and implement solutions
Namibia Development Trust	• Continuation of "Words Unwritten - A History of Maltahoehe (2010)", research oral history in other rural communities and formulate into a visual of some kind, specifically students could look at the impact of the Herero and Namaqua genocide • Document the NDT's history, as they are quickly approaching their 30th year, would like students to profile the prominent leaders, particularly the organization's founders, and outline the future of the organization
NUST Centre for Teaching and Learning	• Developing content for online classrooms for students and faculty
NUST Faculty of Engineering	• Recommendations for fire safety education and upgrades at NUST • Research the cultural stigmas surrounding the use of solar-powered stoves
NUST Faculty of Health and Applied Sciences	• With EduVentures: Introduce children to the microsciences with 100 experiments to supplement schools with less hands-on learning*
NUST Faculty of Management Sciences	Hospitality and Tourism Department: • Recommend customer service improvements in Windhoek, particularly in the tourism industry, in order to identify areas for improvement • Research the effects of rhino poaching on ecotourism • Research ways to improve cultural tourism*
NUST Faculty of Natural Resources and Spatial Sciences	• Create a chain of cultural tourism locations in small villages, where tourists could stay and experience the culture and learn about it, and participate in their activities
Physically Active Youth	• Develop activities to supplement their curriculum
Walvis Bay Corridor Group	• Assist in the implementation of the Bush to Animal Feed Project, turn bush into animal feed for farmers to feed cattle • Outline the steps needed to implement a truck stop

* These projects were not detailed enough to complete S.W.O.T. analyses.

We assessed an organization's Expected Project Quality using projects they proposed (Figure 4.4). Our team conducted a S.W.O.T. analysis (Figure 3.4) on each of the previously

mentioned projects ideas. We did not perform S.W.O.T. analyses of projects marked by an asterisk, because these organizations provided only an idea with no additional details. We were therefore unable to answer all of the questions associated with our analysis.
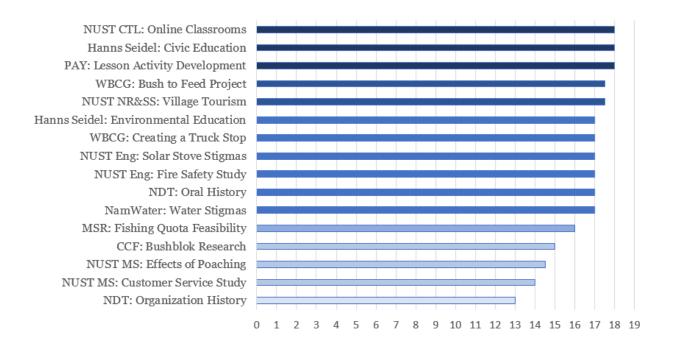

Figure 4.4: Scores for Criterion 3, Expected Project Quality

Of the 16 projects that we assessed, the following projects ranked the highest:

1. NUST Centre for Teaching and Learning: Online Classrooms Feasibility Study
2. The Hanns Seidel Foundation: Civic Education Curriculum Development
3. Physically Active Youth: Lesson Activity Development
4. The Walvis Bay Corridor Group: Bush to Animal Feed Project Implementation
5. NUST Faculty of Natural Resources and Spatial Sciences: Implementation of Tourism Sites into Rural Villages

These projects received higher scores because they have the potential to span over multiple terms, will provide students with an opportunity to engage with the Namibian community, and meet all of WPI's safety and resource requirements. We were unable to rank the top six projects, as the next six projects received the same score. The projects that received lower scores typically

had a broad scope, had the potential to negatively impact Namibian society, or were underdeveloped.

We ranked the organizations and the proposed projects based on each organization's overall sponsor analysis score and project analysis score (Table 4.3).

Table 4.3: Summary of scores for each organization

ORGANIZATION	CRITERION 1: ABILITY TO SPONSOR	CRITERION 2: SPONSOR ENTHUSIASM	OVERALL WEIGHTED SCORE	CRITERION 3: EXPECTED PROJECT QUALITY
Cheetah Conservation Fund	1	1	1	0.789
EduVentures	1	1	1	N/A
Walvis Bay Corridor Group	1	1	1	0.921
Hanns Seidel Foundation	1	0.8	0.934	0.947
NUST Faculty of Natural Resources and Spatial Sciences	1	0.8	0.934	0.921
Namibia Development Trust	0.875	1	0.916	0.895
Namibia Housing Action Group	0.875	1	0.916	N/A
NUST Centre for Teaching & Learning	0.875	1	0.916	1
NUST Faculty of Engineering	0.875	1	0.916	0.895
NUST Faculty of Health & Applied Sciences	0.875	1	0.916	0.921
NUST Faculty of Management Sciences	0.875	1	0.916	0.763
TransNamib Holdings	0.875	1	0.916	N/A
Elimination 8	0.875	0.8	0.850	N/A
Men on the Side of the Road	0.875	0.8	0.850	0.842
NamPower	0.875	0.8	0.850	N/A
NamWater	0.875	0.8	0.850	0.895
Physically Active Youth	0.75	1	0.833	0.947
National Art Gallery	0.75	0.6	0.701	N/A
Healthworks	0.625	0.8	0.683	N/A
Desert Research Foundation of Namibia	0.75	0.2	0.569	N/A

To compile all of this organization information into an easily readable format, we created a separate booklet, consisting of a one-page profile for each organization that contains the organization's purpose, contact information, past projects, proposed projects, and our team's recommendations for the NPC Director, as well as relevant notes from our meetings. (Figure 4.5). This booklet also contains information from interviews with D 2018 NPC students.

ORGANIZATION NAME

Organization logo

Organization's mission statement.

Contact Information: Name, Position
Email:
Business Phone Number:
Cell Phone Number:

Past IQPs: "Past IQP Name"

Team Rankings:
Expected Project Quality: ☆ ☆ ☆ ☆ ☆
Available Resources: ☆ ☆ ☆ ☆ ☆
Sponsor Interest: ☆ ☆ ☆ ☆ ☆

Proposed Project Ideas:

Notes:

Our Recommendations:

Link to organization's website

Figure 4.5: Template for results booklet

We created this booklet, and a sponsor directory of contact information for the organizations we identified, to assist the NPC Director in finding future sponsors and projects.

4.1.3 Effectiveness of Sponsor and Project Analysis

To evaluate the effectiveness of each question in our sponsor analysis, we calculated the variance in responses for each. In this case, variance refers to the difference in yes and no responses. For example, with 30 responses, the greatest variance would be 10 yeses, 10 noes, and 10 maybes/somewhats. A greater variance indicates a more useful question and a smaller variance indicates a less useful question, in ranking organizations. We compiled all responses to all questions for each assessment in one comprehensive table (Appendix A).

For Criterion 1 (Table 4.4), the questions with the highest variance were about limited funding at the organization and proposed project ideas. We expected significant variance for funding because we interviewed many different types of organizations. For example, non-profit organizations were much more likely to mention limited funding than for-profit companies. In terms of proposed projects, past and current sponsors were more likely to provide new ideas for projects than organizations with no experience with WPI. The questions with the lowest variance were about the organization's mission, community impact, and resources. We expected more variation in these questions, especially those regarding resources such as office space, internet, and project coordinators based on information we gathered about Namibian organizations.

Table 4.4: Criterion 1 variance

Yeses	Maybes	Noes	Questions
20	0	0	-Does the purpose of the organization align with the goals of the project center? -Has the organization had a positive impact on the community? -Can the sponsor easily communicate with the center director and the project team? -Does the sponsor have the resources to support a project? (office space, transportation, housing and liaison for any fieldwork) -Does the organization have a project coordinator that could act as a liaison for the students?
18	0	2	-Has the organization had student interns/workers in the past?
13	0	7	-Did the sponsor provide ideas for projects?
9	0	11	-Did the organization mention limited funding?

For Criterion 2 (Table 4.5), the question with the highest variance is about our perception about the organization's enthusiasm. Because this question is on a scale instead of a yes or no, the responses lent themselves to greater variation than the other questions. The questions with the lowest variance, and therefore the least effective questions, were about the organization's interest in partnering with WPI. This may have been somewhat due to culture encouraging people to state their interest even if they would not like to work with WPI.

Table 4.5: Criterion 2 variance

Yeses (2 for scale)	Maybes (1 for scale)	Noes (0 for scale)	Questions
19	0	1	-Did the sponsor explicitly state their willingness to work with WPI? -Was the contact person engaged during the meeting? (taking notes, asking questions, etc.)
1	0	19	-Did the sponsor explicitly decline to work with WPI?
10	8	1	-On a scale of 0-2, what was the team's perception of the sponsor's enthusiasm? (0 being low/no enthusiasm, 2 being high enthusiasm)

For Criterion 3 (Table 4.6), the questions with the highest variance regarded the definition of the project, the future of the project, and the effects of the project on the Namibian people. When we were gathering these project ideas, some were much more defined than others, especially when they came from organizations that had previously sponsored IQPs. Because the project topics and deliverables varied, it makes sense that the future of the project is not the same for every idea. Some projects had clear, short-term deliverables, while others were a component of a larger project initiative, allowing for more projects to stem from that one idea. Also, because the projects would be completed in various ways, there would be various levels of interaction with Namibians. The project outcomes also all had very different effects on Namibian society. The questions with the lowest variance, and thus the least useful questions, were about the negative effects of the project, whether that be on the student, WPI, or Namibian society. This is

reasonable because organizations would not propose projects that would cause harm to any of these areas.

Table 4.6: Criterion 3 variance

(The parenthesized letters indicate the section in our S.W.O.T. analysis they were obtained)

Yeses	Maybes	Noes	Questions
17	0	0	-(ST) Will the project pose a threat to the safety and well-being of the students? -(ST) Will the project's sponsor pose a threat to WPI's reputation?
16	1	0	-(SO) Will the project allow for students to experience the culture? -(ST) Will the project negatively impact the environment, economy, society, etc.? -(WT) Will the project not qualify as an IQP?
16	0	1	-(SO) Will the project positively affect the environment, economy, society, etc.? -(WO) Will the funding of this project be realistic for WPI and the organization? -(WO) Will the project offer an opportunity for collaboration with another organization in Namibia? -(ST) Will the tasks/knowledge required for the completion of the project result in negative feedback from the community or the sponsor?
15	2	0	-(SO) Will the project allow for students to express their talent and knowledge?
15	0	2	-(SO) Will the project build WPI's positive off-campus projects reputation? -(SO) Will the people of Namibia receive any benefits from the project? -(WT) Will the incompletion of the project, due to its nature, result in a negative relationship with the sponsor?
14	1	2	-(WT) Is the subject/problem too broad for students to identify a specific project goal when communicating with the sponsor?
13	1	3	-(WT) Will students be at risk of negatively impacting areas of Namibia because of the circumstances or lack of direction of the project?
13	2	2	-(ST) Will the people of Namibia experience any difficulties that may accompany the project?
12	1	4	-(WO) Although the project's scope may be unrealistic for a one-term completion, will students in the future be able to complete other parts of it?
12	2	3	-(SO) Will the project bring about other potential project initiatives?
6	1	3	-(WO) Is the project idea well-defined enough that is does not require any additional planning?

4.2 Determine Methods to Maintain Sponsorship

Our team contacted 47 organizations, 46 of which are potential IQP sponsors, that we identified, and we noted all correspondence in a contact log. We set up meetings through an initial email, or if emails did not work, by phone call or drop-in visit for organizations that we felt were strong candidates for hosting projects. We emailed 56 individuals or general contact email addresses, and of those, 14, or 25%, responded, while 10, 17.9%, set up meetings. We called individuals who did not respond to emails and of those we reached one out of five, or 20%. Zero phone calls resulted in a scheduled meeting, therefore we opted to stop initial communications by phone. We dropped-in to 26 organizations, and from these visits we received contact information for 18, or 69.2% and met with 8, or 30.8%. Of the 46 organizations capable of hosting IQPs that we contacted through any method, we held a meeting with 20, or 43.5%.

We met with 19 potential IQP sponsors, and 14 of which were past or current sponsors. Eleven of the 14 people we met with worked directly with WPI students, one is in their first IQP preparatory period, one did not work directly with the students, and one was not a part of the organization when they last worked with WPI. Those that acted as liaisons reported a positive experience working with WPI students. Some prevalent themes we identified among the 11 individuals are that WPI students are self-sufficient, organized, mature, motivated, and produce quality work (L. Mwewa, personal communication, March 15, 2018; M. Feldman, personal communication, April 10, 2018). We also identified key themes that sponsors did not like about working with WPI. Three NUST sponsor liaisons noted that the timeline of the Namibian school year does not match the American school year. For the 2018 NUST school year, the first semester occurs February 3, 2018 to May 20, 2018, while the second semester occurs July 11, 2018 to October 25, 2018. These individuals reported that this can make coordinating projects with NUST students and faculty challenging, but that these problems can be overcome and would not deter them from hosting more projects (L. Mwewa, personal communication, March 15, 2018; N Seymour, personal communication, March 20, 2018; S. John, personal communication, March 22, 2018).

We did not need to change our marketing materials following our interactions with sponsors in Namibia. We distributed the NPC Director's business card, our NPC informational flyer, and our IQP examples brochure to 20 potential sponsors after meetings or at drop-in visits where we were unable to meet with someone. We gave our MQP examples brochure to ten

organizations, both past and potential. We did not leave any marketing materials with the organization that declined to work with WPI. We noted that all nine new organizations or past organizations that did not recall working with WPI asked about the project timeline during their interview, which was found on our informational flyer. After each interview, we followed-up with the organization and sent them electronic copies of our NPC informational flyer, sponsor guide, and IQP examples brochure and/or MQP examples brochure, depending on which projects the organization would likely be involved in. One limitation of this information is that we were not able to meet with each organization again to get their opinion of the materials after further reading.

Our team identified a general pattern amongst the 19 IQP-related interviews, and the one MQP-related interview we conducted. We generalized the projects into relatable terms, such as describing the IQP as a "social science research project" or a "consultation project" and the MQP as an "academic major capstone project". Of the ten organization liaisons interested in hosting WPI projects that we met who have not personally worked with WPI in the past, eight organizations expressed confusion about the projects following our initial introduction. After we described the IQP and MQP using the previously mentioned phrases and provided relevant project examples, only two organizations, the National Art Gallery and Healthworks, were still uncertain about the types of projects WPI students would complete. Six of these new organizations asked for project examples relevant to their organization, which was not included in our marketing materials. This information assisted these organizations with the formation of their own project ideas.

Twenty organizations, including current sponsor EduVentures who we did not get to meet with, stated interest in hosting IQPs, and of those, 11 immediately thought of project ideas, five wanted additional time to think about project ideas, and four received project ideas from our team. One organization asked for time to think and presented multiple project ideas at a follow-up meeting. We did not continue communication with the one organization, the DRFN, which declined to work with WPI.

4.3 Create a Foundation for MQPs

In addition to IQPs, we discussed MQPs with many organizations. From these discussions, we identified potential sponsors and projects for future students (Table 4.7). Once

we obtained these ideas, we relayed them to the corresponding WPI departments through the NPC Director and Dr. Aaron Sakulich. From our 24 emails to WPI departments and programs, we received two responses from the Humanities and Arts Department and the Mechanical Engineering Department. Both departments expressed some interest in MQPs hosted by the NPC (J. Sullivan, personal communication, April 23, 2018; P. Hansen, personal communication, April 25, 2018). The Humanities and Arts department noted a need for additional MQPs each year, while the Mechanical Engineering Department reported not needing additional MQPs. Both departments stated that they would be able to waive MQP related fees typically charged to hosting organizations.

Table 4.7: Organizations and proposed MQP ideas

ORGANIZATION	POTENTIAL ACADEMIC DEPARTMENT(S)	PROJECT(S)
Elite Employment	-Computer Science	Development of client database
FP du Toit	-Computer Science	Considering development of transportation mobile application, similar to WBCG's planned application*
Men on the Side of the Road (MSR)	-Computer Science	Development of a mobile application to accompany the database created for MSR members' profiles
NamPower	-Electrical & Computer Engineering -Mechanical Engineering	Expressed interest
NamWater	-Chemical Engineering -Civil & Environmental Engineering	Expressed interest
Namibia Housing Action Group / Shack Dwellers Federation of Namibia	-Civil & Environmental Engineering	Three-year plan to upgrade informal settlements and facilitate city-wide planning and implementation to increase housing opportunities
NUST Faculty of Engineering	-All Engineering Departments	Expressed interest
NUST Faculty of Health & Applied Sciences	-Biology & Biotechnology -Biomedical Engineering -Chemistry & Biochemistry -Mathematical Sciences -Physics	Expressed interest
NUST Faculty of Natural Resources & Spatial Sciences	-Civil & Environmental Engineering -Humanities & Arts	Expressed interest
TransNamib (Operations and Engineering Departments)	-Business -Civil & Environmental Engineering -Computer Science -Mechanical Engineering -Electrical & Computer Engineering	Expressed interest
Walvis Bay Corridor Group (WBCG)	-Computer Science	Development of the mobile application that WPI students are currently designing

*We were unable to meet with FP du Toit. This project description was provided by a mutual contact.

Of these potential sponsors, six are for-profit organizations, two are non-profit organizations, and three are departments of a public academic institution, NUST. These organizations are just a few of the many organizations that could benefit from WPI's major-based projects. We were recommended to speak to Elite Employment and MSR about MQPs as a result of our interview with the WPI students working with MSR in D 2018 (M. McDonald,

personal communication, April 23, 2018). The D 2018 students working with TransNamib recommended we reach out to TransNamib for MQP opportunities (J. Goldsberry, personal communication, April 20, 2018). And the D 2018 WBCG team suggested we speak to FP du Toit and WBCG (R. Hahn, personal communication, April 23, 2018). Through our own experiences in Namibia and those of other IQP teams, we have found one of the largest areas for growth is with computer science and civil and environmental engineering projects. Overall, an increase in the use of advanced technology would benefit many organizations.

4.4 Summary

We identified 47 organizations suitable to host IQPs and MQPs, and were able to meet with 20 of them. We received 19 potential IQPs and five potential MQPs, and have determined that 20 organizations are enthusiastic and able to host IQPs, while 11 are enthusiastic and able to host MQPs. The potential IQPs and MQPs that we have identified indicate the ability for sustained growth of the NPC. Although our list contains a variety of organizations, our team was not able to meet with every organization we identified as a potential sponsor, nor were we able to assess every organization's purpose in Windhoek. Therefore, our results are meant to be used as a basis for future NPC development.

Chapter 5: Recommendations & Conclusions

At the conclusion of our research, we developed recommendations to create and maintain relationships with NPC sponsors. We designed these recommendations to assist the R. Creighton Peet's, the NPC Director, search for sponsoring organizations. Other project center directors and future IQP teams with similar projects will also benefit from our recommendations when expanding other project centers. Our recommendations, in line with our three objectives, are:

5.1 Recommendations

I. These organizations should be prioritized in the search for IQP sponsors at the NPC:

1. The Cheetah Conservation Fund
2. The Hanns Seidel Foundation
3. NUST Faculty of Natural Resources and Spatial Sciences
4. Namibia Housing Action Group
5. NUST Faculty of Engineering
6. Namibia Development Trust

The first six organizations are those that received the highest overall scores from our sponsor analysis, based on their ability to sponsor and enthusiasm. These six exclude TransNamib Holdings Limited, the Walvis Bay Corridor Group, and EduVentures because they are currently NPC sponsors and the NPC Director is already in contact with them. It also excludes the NUST Centre for Teaching and Learning and the NUST Faculty of Health and Applied Sciences because they are currently in preparation terms with the A 2018 NPC students, and are also in contact with the NPC Director. The organizations that we ranked the highest based on our analysis typically had the resources to support a project and were enthusiastic about working with WPI. Those that were ranked the lowest usually lacked funding, project ideas, or interest.

7. The Hanns Seidel Foundation
8. Physically Active Youth
9. NUST Faculty of Natural Resources and Spatial Sciences

We also recommend the NPC Director prioritize the Hanns Seidel Foundation, Physically Active Youth, and the NUST Faculty of Natural Resources and Spatial Sciences because they received high scores for Criterion 3, Expected Project Quality. These three exclude the projects from NUST Centre for Teaching and Learning and the Walvis Bay Corridor Group because they are currently in their preparation term with A 2018 NPC students or are current sponsors. Two of these organizations repeat from the top sponsor analysis scores, which coupled with their high project quality scores, emphasizes their potential to be supportive sponsors with engaging projects involving Namibian communities. These proposed projects involved developing modules regarding civic education, creating activities to accompany lesson plans, and implementing tourism villages in rural communities. The NPC Director should contact organizations outside of the top nine organizations if they are not available. The majority of organizations we rated the highest are working to combat some of Namibia's fundamental problems, such as poverty, access to basic amenities, education, climate, and health.

We further recommend that the NPC Director contact Beautiful Kidz, Elimination 8, Healthworks, the National Botanical Research Institute, and Women at Work. Although Elimination 8 and Healthworks received low overall weighted scores due to limited funding and lack of project ideas, we believe that both have the potential to host interesting projects related to health in the future. Currently, these organizations were uncertain about the types of projects that WPI students would complete with them, but with further explanation and time to think they may be able to develop project ideas. The Elimination 8 representative mentioned issues with data collection and analysis, which an IQP could improve (K. Sibisibi, personal communication, March 23, 2018). Healthworks is currently conducting mostly clinical work, but in the future they may need a project to address other organizational issues, such as recommendations about the use of their mobile health van, or training manuals for mobile health clinic employees (NABCOA, 2015). Furthermore, we were not able to formally meet with Beautiful Kids, the National Botanical Research Institute, and Women at Work, but these organizations expressed interest in partnering with WPI students in the initial communications we had with them.

Beautiful Kidz, a school and support system for children in need and their families, is targeting lack of education, a current problem in Namibia (Beautiful Kidz, 2013). The National Botanical Research Institute is also targeting education, and works to preserve native Namibian plant life through public education and conservation efforts (The National Botanical Research Institute, 2018). We believe students could play a role in researching methods to involve the public in conservation activities. Women at Work works to combat unemployment, particularly among the female population in Namibia, by providing skills training and classes. We believe WPI students could research relevant skill sets and develop a training session for this organization. Because we asked for project ideas nearly a year in advance, and funding situations change over time, we believe these organizations have the potential to sponsor IQPs in the future. These organizations are also similar in mission and structure to some of the organizations students at the NPC have worked with in the past, which increases the likelihood that these organizations will be successful sponsors.

II. Center directors and IQP teams at other project centers should modify our methods to fit the culture of their center.

We created a sponsor analysis that was specific to the NPC, as it was adapted to the goals, needs, and culture of the project center. If implemented at another project center, the students or center director would need to ensure that the analysis was applicable to their particular center. Specific adaptations could reflect the social norms of the country or the different types of organizations that could propose projects that fit that area's needs. Each country possesses its own obstacles pertaining to personal interactions, cultural standards, and social implications that will need to be identified, to ensure the sponsor analysis is an accurate representation of organizations' capabilities to host projects. For example, language barriers may be a greater concern at other centers, so this would need to be considered by students and noted in their sponsor analysis. Future IQP teams and center directors should also prioritize specific questions when analyzing sponsors, as we found certain questions unhelpful based on our evaluation of the variance for each question. Many of the ideas used to create our analysis can be used, such as the requirements for sponsors such as safety, funding, and enthusiasm.

Future IQP teams and center directors should also use multiple methods to identify potential sponsors and begin initial contact. Through our search for organizations capable of hosting IQPs and MQPs, we found that using multiple methods to identify sponsors was effective. A suggestion from a mutual contact, such as the NPC Director, was valuable to us because we had a trusted source attest to the organization's credibility and commitment to their goals. Organizations we found through self-search often proved just as qualified to host IQPs or MQPs, but we based all of our knowledge about the organization's purpose and actions off of online sources and our initial interactions. Particular identification methods could be more applicable to the culture of certain centers. For example, having a mutual contact who can refer one to an organization may be the only method of establishing a strong contact at some particular project centers, due to the need to establish trust with the university and foreign students.

We found the communication protocol and contact log to be helpful when identifying the most effective communication methods for contacting organizations. Our marketing materials assisted us during communications by providing important information related to WPI's projects. Future IQP teams should use a specific communication protocol that is suitable for the culture of that center, and use a contact log to prove this. Interview content and preferred methods of communication, such as email versus face-to-face, differ at each project center, meaning that the methods we found effective in Namibia may prove to be ineffective in areas such as Europe or the United States. Future IQP teams should also develop marketing materials based on the community's culture, past projects, and the goals and needs of that particular project center. This will enable organizations in the area to understand the program by appealing to their familiarity with organizations or initiatives specific to that location. IQP teams should also include examples of projects that pertain to the mission or operations of that organization, which may allow the representative to more readily think of projects that could be completed with WPI students.

III. There should be continued communication between the MQP coordinators for relevant WPI departments and programs, and organizations in Namibia about future MQP opportunities.

We have also identified 11 potential MQP sponsors in Namibia. The projects we identified mainly relate to Computer Science and Civil & Environmental Engineering. Through our own experiences and through conversations with these organizations, we have found that

technology and quality of life are areas in Namibia that can use improvement. Incorporating additional technology into businesses, such as creating a mobile application for a company, is time-consuming and expensive. WPI students working on projects like these would benefit the organization with the knowledge from their academic experiences. A challenge for many Namibians is affordable, quality housing, for which civil engineers could assist in developing solutions. With a difficult and changing climate, there are many prevalent environmental concerns in Namibia, which could be studied by environmental engineers. We also believe there is potential for projects in other departments, but these are the most abundant opportunities.

The IGSD should look into a more efficient platform for communicating off-campus MQP opportunities. This platform could consist of an online discussion board where the MQP coordinators for each department and program looking for more MQP opportunities could ask all center directors for suggestions, or center directors could post information about projects they have found. This would allow for more efficient expansion of off-campus MQPs. One limitation of this platform is that it would need to be maintained by a WPI faculty or staff member, and a faculty member from each department or program would need to update it. Maintaining such a platform may not be feasible at the current time due to the changing schedules of WPI faculty and staff.

5.2 Conclusion

Our team identified and communicated with 46 organizations capable of hosting IQPs, and 11 capable of hosting MQPs in Namibia. Our communications led to 19 potential IQPs and five potential MQPs. Out of the 47 total organizations identified to host projects, we found 28 new contacts and met with 20 organizations, and two EduVentures D 2018 IQP teams in place of their sponsor. Twenty of these organizations are interested in working with WPI. In doing so, we accomplished our goal to bolster the NPC's expansion. We established sponsor relationships and found IQP ideas, and recognized the potential for technical projects like MQPs in Namibia.

The IQPs and MQPs we found will allow students to assist communities and grow their cultural awareness, as well as develop their research and technical skills. IQP teams and project center directors can use our recommendations to alter our interaction methods and marketing materials to fit the needs of their center. Therefore, our work will allow other project centers to examine their potential for similar growth, and will provide a basis for the growth of the Global

Projects Program as a whole. As the Global Projects Program continues to develop and expand, communities around the world will receive the knowledge and skills developed at WPI to assist them in combating the key challenges they face.

References

AA Namibia. (2016). *AA Namibia.* Retrieved from http://www.aa-namibia.com

Almonte, L., Burner, C., Ring, J., Simpson, V., & Zarate, S. (2016). *Responding to Challenges following the Panama Canal Expansion Project* (Undergraduate Major Qualifying Project No. E-project-110716-193156). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: https://web.wpi.edu/Pubs/E-project/Available/E-project-110716-193156/

Alvarez, Alexander R., Dunn, Julia A., Dunphy, Katharine D., & Lemmon, Alexander M. (2017). *Improving Eye Care Delivery Through Data Sharing Technology.* (Undergraduate Interactive Qualifying Project No. E-project-071317-093613). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: http://www.wpi.edu/Pubs/E-project/Available/E-project-071317-093613

Baron, Andy & Brangan Mell, Eileen (2017, August). WPI launches global projects for all initiative to give every student access to off-campus project experiences. *University Wire.* Retrieved from https://search.proquest.com/docview/1929457674

Bayas, Andrea C., Buckley, Maura J., Ford, Cierra K., & Lawes, Javier A. (2017). *A Citizen Science Platform for Long-Term Monitoring of Microplastic Pollution in Port Phillip Bay* (Undergraduate Interactive Qualifying Project No. E-project-050117-214848). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: http://www.wpi.edu/Pubs/E-project/Available/E-project-050117-214848

Beatty, J., Lund, J., & Robertie, C. (2010). *Renewable Energy Alternatives* (Undergraduate Major Qualifying Project No. E-project-011http://www.wpi.edu/Pubs/E-project/Available/%09E-project-050115-123834510-124608). Retrieved from Worcester

Polytechnic Institute Electronic Projects Collection: https://web.wpi.edu/Pubs/E-project/Available/E-project-011510-124608/

Beautiful Kidz. (2013). *Beautiful Kidz*. Retrieved from https://www.beautifulkidz.org/

Cairney, L., & Kapilashrami, A. (2014). Confronting 'scale-down': Assessing Namibia's human resource strategies in the context of decreased HIV/AIDS funding. *Global Public Health*, 9(1-2), 198-209. 10.1080/17441692.2014.881525

Cheetah Conservation Fund. (2018). *What we do*. Retrieved from https://cheetah.org/what-we-do/

City of Windhoek. (2018). *About the city*. Retrieved from http://www.windhoekcc.org.na/info_about_city.php

Desert Research Foundation of Namibia. (2018). *About us: Vision, mission and core values*. Retrieved from http://www.drfn.org.na/about-us/vision-mission-and-core-values

Dorsey, M. W. (1996). A miracle at Worcester: the story of the WPI plan. *WPI Journal, 99(3)*. Retrieved from https://web.wpi.edu/academics/library/history/plan/

Durgin W.W., Zwiep D.N. (2001) Global Projects Prepare WPI Students for the 21st Century. In: Weichert D., Rauhut B., Schmidt R. (eds), *Educating the Engineer for the 21st Century*. Dordrecht: Springer.

Elimination 8. (2016). *Home*. Retrieved from https://malariaelimination8.org/

Elite Employment Recruitment Specialists. (2018). *About Elite Employment*. Retrieved from http://eliteemployment.com.na/elite-employment/

Environmental Investment Fund of Namibia. (2018). *About EIF*. Retrieved from http://www.eifnamibia.com/index.php/about

FP du Toit. (2018). *About us*. Retrieved from http://www.fpdt.na/index.php/about-us

Garrouste, C. (2011). Explaining learning gaps in Namibia: The role of language proficiency. *International Journal of Educational Development, 31*(3), 223-233. doi:10.1016/j.ijedudev.2010.06.016

Friedrich Ebert Foundation. (2018). Welcome to FES Namibia. Retrieved from http://fesnam.org/

Gobabeb Research & Training Centre. (2018). *About us*. Retrieved from http://www.gobabebtrc.org/index.php/about-us

Government of Namibia. (2018a). *Home*. Retrieved from http://www.mova.gov.na/

Government of Namibia. (2018b). *Home*. Retrieved from http://www.mfmr.gov.na/

Government of Namibia. (2018c). *Home*. Retrieved from http://www.mawf.gov.na/

Government of Namibia. (2018d). *Home*. Retrieved from http://www.mlr.gov.na/

Hanns Seidel Foundation. (2018). Mission and fields of activity. Retrieved from https://namibia.hss.de/foundation/fields-of-activity-and-mission/

Institute for Public Policy Research. (2017). *About us*. Retrieved from http://www.ippr.org.na/about/

Integrated Rural Development and Nature Conservation. (2018). *About us: our mission & philosophy*. Retrieved from http://www.irdnc.org.na/our-mission-philosophy.html

Katangais. (2017). *Map of Namibia's administrative regions*. Retrieved from https://frr.wikipedia.org/wiki/Namiibia#/media/File:Lettered_Namibia_Regions1 jpg

Labour Resource and Research Institute. (2017). *Company profile*. Retrieved from http://larri-namibia.org/company-profile.html

Mapfumo, S. (2018). *About us*. Retrieved from http://www.eduventures-africa.org/1_about.htm#

Men on the Side of the Road. (2014). *Who we are and what we do*. Retrieved from

    http://msr.org.na/about-us/who-we-are-and-what-we-do/

Michelle McLean Children Trust. (2017). *About us*. Retrieved from

    http://www.mmct.org.na/section.php?secid=2

Muir, A. (2010). *Designing Victoria Harbor* (Undergraduate Major Qualifying Project No. E

    project-031110-171139). Retrieved from Worcester Polytechnic Institute Electronic

    Projects Collection: https://web.wpi.edu/Pubs/E-project/Available/E-project-031110-

    171139/

Museums Association of Namibia. (2018). *National museum of Namibia*. Retrieved from

    http://www.museums.com.na/museums/windhoek/national-museum-of-namibia

NABCOA. (2015). *Our vision and mission*. Retrieved from

    http://www.healthworks.com.na/about-us/vision-mission

Namibia Development Corporation. (2013). *About*. Retrieved from

    http://www.ndc.org.na/about/default.html

Namibia Development Trust. (2010). *About*. Retrieved from

    http://www.ndt.org.na/?page_id=2

Namibia Nature Foundation. (2018). *Who is NNF?* Retrieved from

    http://www.nnf.org.na/index.php/about-us.html

Namibia Tourism Board. (2018). *About us*. Retrieved from

    http://www.namibiatourism.com.na/page/about-us

Namibia Training Authority. (2018). *Corporate vision*. Retrieved from

    http://www.nta.com.na/?page_id=246

Namibia University of Science and Technology. (2018a). *Centre for Teaching and Learning*.

Retrieved

from http://www.nust.na/?q=admin-departments/centre-teaching-and-learning

Namibia University of Science and Technology. (2018b). *Faculty of Engineering*. Retrieved

from http://fe.nust.na/

Namibia University of Science and Technology. (2018c). *Faculty of Health and Applied*

Sciences. Retrieved from http://fhas.nust.na/

Namibia University of Science and Technology. (2018d). *Faculty of Management Sciences*.

Retrieved from http://fms.nust.na/

Namibia University of Science and Technology. (2018e). *Faculty of Natural Resources and*

Spatial Sciences. Retrieved from http://fnrss.nust.na/

Namibia Water Corporation Limited (NamWater). (2018). *About us*. Retrieved from

https://www.namwater.com.na/index.php?option=com_content&view=article&id=1&It

mid103

Namibia: Unemployment up. (2006). *Africa Research Bulletin: Economic, Financial and*

Technical Series, 43(5), 16966A-16966B. doi:10.1111/j.1467-6346.2006.00265.x

NamPower. (2018). *Welcome to NamPower official website*. Retrieved from

http://www.nampower.com.na/

National Theatre of Namibia. (2017). Retrieved from

https://en.wikipedia.org/wiki/National_Theatre_of_Namibia

Namibian Olympic Committee. (2013). *About us*. Retrieved from

http://www.olympic.org.na/page/about-us/

National Art Gallery of Namibia. (2015). *Our vision & mission*. Retrieved from

http://www.nagn.org.na/index.php/gallery/vision-mission

National Botanical Research Institute. (2018). *Home*. Retrieved from

    http://www.nbri.org.na/

 National Youth Council of Namibia. (2011). *About us*. Retrieved from

    http://www.youthcouncil-namibia.org/about.htm

Nguvenjengua, H., & Undji, V. (2017). The impact of rural infrastructure shortages on poverty

    and income inequality in Namibia. *Civil Engineering: Magazine of the South African*

    Institution of Civil Engineering, 25(9), 54-54.

Pelissari, K., Grabinsky, J., DiRuzza, E., & Consedine, T. (2017). *Renewable energy SMART*

    lessons -- an educational approach to a sustainable future in Namibia. (Undergraduate

    Interactive Qualifying Project No. E-project-050517-040423). Retrieved from Worcester

    Polytechnic Institute Electronic Projects Collection: http://www.wpi.edu/Pubs/E-

    project/Available/E-project-050517-040423

Physically Active Youth. (2017). *Our mission*. Retrieved from

    http://paynamibia.org/our-mission/#statement

President's Planning Group, Worcester Polytechnic Institute. (1969). *The future of two towers: A*

    planning program for Worcester Polytechnic Institute. Worcester, MA: Worcester

    Polytechnic Institute.

Reid, H., Sahlén, L., Stage, J., MacGregor, J., Umeå Univercentert,

    Samhällsvetenskapliga Fakulteten, & Institutionen för Nationalekonomi. (2008). Climate

    change impacts on Namibia's natural resources and economy. *Climate Policy*, 8(5),

    452-466.

Richards, Z., Keyes, C., Creaghan, M., & Smith. (2015). *Diversifying WPI projects in*

    Switzerland

(Undergraduate Interactive Qualifying Project No. E-project-050115-123834). Retrieved

from Worcester Polytechnic Institute Electronic Projects Collection:

http://www.wpi.edu/Pubs/E-project/Available/E-project-050115-123834

San Andres, M., LaFlamme, R., Espinoza, B., & Cederberg, K. (2016). *Investigating a new

project center -- Cuenca, Ecuador (Undergraduate Interactive Qualifying Project No.

E-project-121715-152707). Retrieved from Worcester Polytechnic Institute Electronic

Projects Collection: http://www.wpi.edu/Pubs/E-project/Available/E-project-121715-

152707

Seely, C., Day, J., Cochran, I., & Carlson, K. (2017). *Documenting and Promoting the Impacts

of the Melbourne Project Center (Undergraduate Interactive Qualifying Project No.

E-project-050117-050527). Retrieved from Worcester Polytechnic Institute Electronic

Projects Collection: http://www.wpi.edu/Pubs/E-project/Available/E-project-050117-

050527

Shack Dwellers Federation of Namibia. (2018). *Home*. Retrieved from

https://sdfn.weebly.com/

Sister Namibia. (2018). *Vision*. Retrieved from https://sisternamibia.com/about/vision/

Trading Economics. (2018). Namibia unemployment rate. Retrieved from

https://tradingeconomics.com/namibia/unemployment-rate

TransNamib Holdings Limited. (2018). *Home*. Retrieved from transnamib.com.na/

Vaz, R., & Quinn, P. (2014). *Long term impacts of off-campus project work on student learning

and development. Paper presented at the 2014 IEEE Frontiers in Education Conference

(FIE) Proceedings, 1-5. doi:10.1109/FIE.2014.7044128

Verboncu, I., & Condurache, A. (2016). Diagnostics vs. S.W.O.T. analysis. *Revista De

Management Comparat International, 17(2), 114.

Walvis Bay Corridor Group. (2018). *About us*. Retrieved from

   http://www.wbcg.com.na/about-us.html

Women at Work Training Centre. (2018). *About*. Retrieved from

   http://womenatwork-namibia.org/#intro

Woodnorth, S., Whorton, S., Nesbitt, N., Heller, R., & Fancher, C. (2009). *Wellington project*

   initiative -- an assessment of the feasibility of establishing an IQP center in Wellington,

   New Zealand (Undergraduate Interactive Qualifying Project No. E-project-050109-

   170351). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection:

   http://www.wpi.edu/Pubs/E-project/Available/ E-project-050109-170351

Worcester Polytechnic Institute. (2015). *Worcester polytechnic institute 150 years: Imagine*

   more. Retrieved from http://150.wpi.edu/timeline-event/first-project-center/

Worcester Polytechnic Institute. (2017). *Undergraduate Catalog 2017-2018*. Retrieved from

   https://www.wpi.edu/centers/default/files/docs/Academic-Resources/Academic-

   Catalogs/WPI_UGCat17-18.pdf

Worcester Polytechnic Institute. (2018a). *Facts & Figures*. Retrieved from

   https://www.wpi.edu/about/facts?field_category_tid=All

Worcester Polytechnic Institute (2018b). *Global Projects Program*. Retrieved from

   https://www.wpi.edu/project-based-learning/global-project-program

Worcester Polytechnic Institute. (2018c). *MQP programs*. Retrieved from

   https://wpi-

   sa.terradotta.com/index.cfm?FuseAction=Abroad.ViewLink&Parent_ID=0BD3F4EC-

5056-BA1F-71EC738F9F2E0BDB&Link_ID=0C473FD9-5056-BA1F-

7151C993D9DBC144

Worcester Polytechnic Institute. (2018d). *The WPI plan*. Retrieved from

https://www.wpi.edu/project-based-learning/wpi-plan

Worcester Polytechnic Institute. (2018e). *Wellington, New Zealand Project Center (IQP)*.

Retrieved from

https://wpi-

sa.terradotta.com/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=16546

Worcester Polytechnic Institute. (2018f). *Windhoek, Namibia Project Center*

(IQP). Retrieved from

https://wpi-sa.terradotta.com/index.cfm?FuseAction=Programs.ViewProgram&Program_

ID=15367

Zuccolo, L., Henson, K., Filippou, S., & Callahan, A. (2016). *Twenty years down under --*

documenting the history and assessing the impacts of WPI's Melbourne Project Center

(Undergraduate Interactive Qualifying Project No. E-project-121016-194913). Retrieved

from Worcester Polytechnic Institute Electronic Projects Collection:

http://www.wpi.edu/Pubs/E-project/Available/E-project-121016-194913

Appendix A: Summary of Sponsor Assessment and S.W.O.T. Scores

Organization	Sponsor Assessment			Ability to Sponsor					Enthusiasm				Totals	
	Mission?	Community impact?	Easy communication?	Resources?	Limited funds?	Project ideas?	Project coordinator?	Student interns?	Stated willingness?	Stated decline?	Perceived enthusiasm?	Engaged?	Ability Total	Enthusiasm Total
CCF	1	1	1	1	1	1	1	1	1	1	2	1	8	5
DRFN	1	1	1	1	0	0	1	1	0	0	0	1	6	1
EduVentures	1	1	1	1	1	1	1	1	1	1	2	1	8	5
Elimination 8	1	1	1	1	1	0	1	1	1	1	1	1	7	4
Hanns Seidel	1	1	1	1	1	1	1	1	1	1	1	1	8	4
Healthworks	1	1	1	1	0	0	1	0	1	1	1	1	5	4
MSR	1	1	1	1	0	1	1	1	1	1	1	1	7	4
NamPower	1	1	1	1	0	0	1	1	1	1	1	1	7	4
NamWater	1	1	1	1	1	0	1	0	1	1	1	1	7	4
National Art Gallery	1	1	1	1	1	0	1	0	1	1	1	0	6	3
NDT	1	1	1	1	0	1	1	1	1	1	2	1	7	5
NHAG	1	1	1	1	0	1	1	1	1	1	2	1	7	5
NUST CTL	1	1	1	1	0	1	1	1	1	1	2	1	7	5
NUST Engineering	1	1	1	1	0	1	1	1	1	1	2	1	7	5
NUST H&AS	1	1	1	1	0	1	1	1	1	1	2	1	7	5
NUST H&T	1	1	1	1	0	1	1	1	1	1	2	1	8	5
NUST NR&SS	1	1	1	1	1	1	1	1	1	1	1	1	6	4
PAY	1	1	1	1	0	0	1	1	1	1	2	1	6	5
TransNamib	1	1	1	1	0	1	1	1	1	1	2	1	7	5
WBCG	1	1	1	1	1	1	1	1	1	1	2	1	8	5
Total Responses	19													
Yeses (or 2 for scale)	20	20	20	20	9	13	20	18	19	19	10	19		
Nos (or 0 for scale)	0	0	0	0	11	7	0	2	1	1	1	1		
Maybes (1 for scale)	0	0	0	0	0	0	0	0	0	0	8	0		

SWOT			SO						WO			
Organization	Project	Start other projects?	Pos affect env, econ, soc?	WPI reputation?	Student knowledge/talent?	Exp. culture?	Benefits for Namibians?	Multiple terms?	Realistic funding?	Well defined enough?	Collaboration?
CCF	Bushblok Sales	0	1	1	1	1	1	0	1	0	1
DRFN											
Elimination 8											
Hanns Seidel	Civic Education	1	1	1	1	1	1	1	1	0	1
Hanns Seidel	Environmental Education	1	1	1	1	1	1	1	1	0	1
Healthworks											
MSR	Fishing Quota Proposal	0	1	1	1	1	0	0	1	0	1
NamPower											
NamWater	Paying for Water	1	1	1	1	1	1	1	1	0	1
National Art Gallery											
NHAG											
NDT	Org History	0	0	0	0	1	0	0	1	1	0
NDT	Oral History	1	1	1	1	1	1	1	1	0	0
NUST CTL	Learning Management Systems	1	1	1	1	1	1	1	1	1	1
NUST CTL	Online Classrooms	1	1	1	1	1	1	1	1	0	1
NUST Engineering	Fire Safety Education and Upgrades	1	1	1	1	1	1	1	1	1	1
NUST Engineering	Cultural Stigmas Surrounding Solar-powered Stoves	1	1	1	1	1	1	0	1	0	1
NUST H&AS	Tutoring Program Expansion	1	1	1	1	0.5	1	1	1	0	1
NUST H&T	Customer Service Study	0.5	1	0	0.5	1	1	0.5	0	0	1
NUST H&T	Effects of Poaching on Ecotourism	1	1	1	1	1	0	1	0	0	1
NUST NR&SS	Tourist Villages	1	1	1	1	1	1	1	1	0	1
PAY	Lesson Activity Development	1	1	1	1	1	1	1	1	0	1
TransNamib											
WBCG	Bush to Animal Feed	0.5	1	1	0.5	1	1	1	1	1	1
WBCG	Outlining Truck Stop Creation Steps	0.5	1	1	1	0.5	1	1	1	1	1
Yeses		12	16	15	15	16	15	12	16	6	16
Maybes		2	0	0	2	1	0	0	0	0	0
Nos		3	1	2	0	0	2	4	1	11	0

SWOT			ST						WT			
Organization	Project		Safety?	WPI reputation?	Neg. impact env, econ, soc?	Difficulties for Namibians?	Neg. feedback?	Qualify as IQP?	Neg. sponsor relationship?	Too broad?	Neg. impact on Namibia?	Total Score
CCF	Bushblok Sales		1	1	1	1	1	1	1	0	1	15
DRFN												0
Elimination 8												0
Hanns Seidel	Civic Education		1	1	1	1	1	1	1	1	1	18
Hanns Seidel	Environmental Education		1	1	1	1	1	1	1	0	1	17
Healthworks												0
MSR	Fishing Quota Proposal		1	1	1	1	1	1	1	1	1	16
NamPower												0
NamWater	Paying for Water		1	1	1	0.5	1	1	1	1	0.5	17
National Art Gallery												0
NDT	Org History		1	1	1	1	1	1	1	1	1	13
NDT	Oral History		1	1	1	1	1	1	1	1	0	17
NHAG												0
NUST CTL	Learning Management Systems		1	1	1	1	1	1	1	1	1	19
NUST CTL	Online Classrooms		1	1	1	1	1	1	1	1	1	18
NUST Engineering	Fire Safety Education and Upgrades		1	1	1	0	0	1	1	1	0	16
NUST Engineering	Cultural Stigmas Surrounding Solar-powered Stoves		1	1	1	1	1	1	1	1	1	17
NUST H&AS	Tutoring Program Expansion		1	1	1	0	1	1	1	1	1	17.5
NUST H&T	Customer Service Study		1	1	1	1	1	0.5	1	1	1	14
NUST H&T	Effects of Poaching on Ecotourism		1	1	0.5	0.5	1	0.5	0	1	1	14.5
NUST NR&SS	Tourist Villages		1	1	1	0.5	1	1	1	1	0	17.5
PAY	Lesson Activity Development		1	1	1	1	1	1	1	1	1	18
TransNamib												0
WBCG	Bush to Animal Feed		1	1	1	1	1	1	1	0.5	1	17.5
WBCG	Outlining Truck Stop Creation Steps		0.5	1	1	2	1	1	1	1	0.5	17
Yeses			17	17	16	13	16	16	15	14	13	
Maybes			0	0	0	2	0	0	0	1	1	
Nos			0	0	0	2	1	0	2	2	3	