

Cycling Against Poverty? Researching a Sport for Development Movement and an 'Object' in/for Development

Final Report for Non-Governmental Organizations

Dr. Lyndsay Hayhurst, Assistant Professor, York University, Toronto, Ontario, Canada
Mitchell McSweeney, PhD Candidate, York University, Toronto, Ontario, Canada
Dr. Brian Wilson, Professor, University of British Columbia, Vancouver, British Columbia, Canada
Dr. Brad Millington, Associate Professor, Brock University, St. Catharines, Ontario, Canada



BRIEF RESEARCH SUMMARY

The main purpose of this project was to explore how the bicycle for development (BFD) 'movement', and bicycles more broadly, shape the day-to-day experiences and lives of people in Uganda, Nicaragua, Canada, India, and South Africa, and overall, how bicycles are used for development purposes in a number of geographical locations around the world. The research questions below helped guide the overall project about the broader BFD movement and guided fieldwork in each of the five countries listed:

1. What development roles do bicycles play in disadvantaged communities in Canada, Nicaragua, South Africa, India, and Uganda?
2. To what extent does BFD enhance and uphold local sustainable community development efforts in global South countries, and marginalized communities in the global North?
3. How do bicycles enter, move within, and leave these communities? Who has access to the bicycles and the benefits of bicycles, and who does not?
4. What do the 'life histories' of bicycles reveal about the globalization of development, aid, and work in local communities?

RESEARCH METHODS

There were two phases involved in this study. First, executives of BFD organizations were recruited to participate in semi-structured interviews, regardless of country location for variance in perspectives, in order to obtain insight about organizations engaging in bicycle-related development work. A total of 32 interviews with individuals from 19 BFD organization who consented to participating in the study were conducted. Prior to contacting executives, a BFD 'global map' (<https://www.zeemaps.com/map?group=2303195#>) was created using accessible online information and web searches (e.g., "bicycles and development", "bicycle foundations") about BFD organizations around the world. The web searches revealed that a majority of BFD organizations were created in the US, Canada, Australia, and the UK, whereas the bulk of bicycles are distributed in regions of Africa, Central America, and South Asia. Most organizations operated internationally, although some primarily focus on domestic contexts (e.g., Canada). Social goals varied by organization and location, including attention to poverty, enhancing mobility, empowerment, gender equality, access to education, health promotion, and market accessibility. It was also evident that the BFD organizations operated in multiple ways. For example, they: (1) collected used, donated, old and/or broken bicycles and bicycle parts to be shipped to marginalized areas of the global North or – which is most often the case – the global South for use; (2) used bicycles for development programming (promoting girls' empowerment) in the case of community-driven BFD organizations; (3) sold bicycles at low-costs (whether manufactured, donated or built) to local bike shops in marginalized areas of the global South to spur local economies and invest in community employment; and (4) used proceeds of sold bicycles to open bicycle shops, train bicycle mechanics, and more generally invoke a cost-friendly form of mobility for populations with limited access to transportation resources and options (see Author, in press).

During the second phase of research, fieldwork in each of the five locations identified above was conducted to gain understanding of the impact (if any) of bicycles within the lives of those targeted by initiatives. A community-based photovoice approach was used for this project in each location, which involved multiple steps and on-going collaboration with local organizations, the community and participants, as well as community-based researchers (Castleden et al., 2008; Wang, 2006). For Canada, Nicaragua, Uganda, and India, visual and digital methods were used to understand the experiences of individuals with the bicycle. Fieldwork followed similar steps as follows with some slight variances in each location: (1) A workshop orientation that introduced what the BFD research is, how the research is beneficial to the community, and the specific steps and ethical considerations to collect photographs. (2) Participants captured photos that answered the question “*What are the enablers and barriers of riding a bicycle in [location]*”. Participants had approximately one week to complete the assignment. (3) A team of researchers, then coordinated and conducted photovoice interviews, where participants chose one photo each to represent the enablers and barriers of cycling, with a set of interview questions following afterwards. Interview questions revolved around the bicycle, its usage, economic activity, gender relations, as well as other important elements of cycling brought up through photos (e.g., health treatment accessibility, environmental benefits and challenges). (4) After the photovoice interviews were complete, the participants were invited to create a mural (photocollage) and engage in group discussions. Group discussions involved research participants presenting their experiences of cycling and what the main enablers and barriers of riding a bicycle in their communities were. (5) The group discussions allowed participants to share their murals and collectively agree what were the enablers and barriers in using the bicycle around [location]. In South Africa, two researchers observed a primary commuting road in Bloemfontein to speak with cyclists riding bicycles, and following discussion, conducted extended semi-structured interviews – visual and digital methods were not included in this location’s fieldwork.

In total, 106 individuals participated in this study. In Uganda, 18 HIV positive women from BFD programs participated in the research (approximately 13 of whom were widows), and seven women unaffiliated with BFD programs but who used a bicycle (i.e., that was purchased or borrowed from a friend or family member) participated in the research. In South Africa, researchers spoke with 47 cyclists, as well as conducted extended interviews with 20 individuals (all male). For Nicaragua, 14 women and girls from a BFD organization participated in the study, while in India, 14 young women involved with a BFD organization were involved. In Canada, nine individuals from a bicycle-related organization participated in the research, with an additional four individuals not affiliated with the organization but who cycled in the Greater Toronto Area also participating.

All interviews were translated from local languages to English (where necessary) by a community-based researcher. Once translated, other BFD research assistants transcribed the interviews, and organized the photographs taken by the participants into the following categories in the Findings sections (see below). A thematic analysis was used to identify emerging themes, while incorporating the findings that the participants have collected during the group discussions (Braun, Clarke, & Wheate, 2016).

All of the collected data were analyzed with a qualitative research software program called Nvivo 11 and 12. The research team met once a week to discuss the emerging themes that were significant to each respective fieldwork site including Nicaragua, India, Uganda, South Africa and Canada. A team-based approach to coding and analysis was conducted following the steps outlined by Milford et al. (2017). In the following sections, we highlight findings according to each country in order to recognize the context-specificity of each location. The first section highlights the main findings from executive interviews. After presenting the findings, we provide recommendations based on each fieldwork location site. While these recommendations are tailored dependent on each location where research was conducted, we believe they are also suggestions well-suited for other organizations working within the BFD sector. Either pseudonyms are used for participants and/or organizations or there is no participant and/or organization names included in order to promote anonymity.

FINDINGS

BFD EXECUTIVE INTERVIEWS

1. The impact of government regulations on BFD work

Interviews with executives from BFD organizations revealed how government regulation can serve to restrict or facilitate development work. For example, various executives spoke about how government import and export taxes potentially disrupt programs of action by impeding development initiatives before they ever get started. One participant noted that,

“The Ecuadorian consulate wouldn’t give me import clearances to get into Ecuador and then I had a whole bunch of bikes and no place to ship them, and I got the opportunity to start shipping them into Nicaragua.”

Another executive also discussed how import fees presented challenges for BFD work in certain countries:

“But I believe when the new government came into play in Ghana two years ago, they increased the import fees on bicycles and decreased them on cars and car parts – which, like transportation policy in any country, however you’re subsidizing and taxing it is going to have a big impact.”

Other executives had similar comments about the ways in which government regulations influenced the ability to send bicycles to certain areas. In addition, some executives commented that due to laws around imports and exports, bicycles were not delivered where they may be needed most, but rather where bicycles would be easier to deliver to: “You know to be frank, and I almost hate admitting it ... but, we end up sort of helping where it’s easiest, not necessarily where it’s most needed.”

2. The bicycle’s material nature including sturdiness, type, and structure

A second theme that was identified across executive interviews was the material nature of the bicycle itself, in particular in regard to ensuring that bikes would be suitable for usage in local contexts where they are shipped. The ‘sturdiness’ of the bicycle is a key consideration in regard to having a bicycle that is suitable for local contexts and which complicates the assumed straightforward relationship between bicycle donations in one context (e.g., the Global North) and bicycle provision in another (e.g., the Global South). One executive said that, “If we give an old ten-speed bike with skinny tires and dropped handlebars, that has very low value in the bush in rural Africa.”

Other executives also commented on how bicycle parts and styles played a large role in BFD work:

“Ideally, [bikes have] no suspension, because it requires less maintenance and those bikes are really not available anymore. Mountain bikes, which are really what we ideally try to send, have become so specialized and so unique in terms of different wheel sizes, and brakes, hydraulic brakes, that impacts what we have to send down.”

“You know, the thing is, the quality [in the West] is probably better in many respects, but you ship a bike in that's on a different system than the bikes they have in most bikes in tiny villages, they can't get parts. The bike breaks down. What are they going to do?”

Related to the structure or type of bicycle was also the challenge of bicycle repair. One executive mentioned that, “you find that people are spending a lot of money on repairs and the bicycles are not functioning, which kind of defeats the purpose of having them.”

3. Environmental conditions

Lastly, a third theme across executive interviews was the influence of the environment on BFD work. The successful use of bicycles was often partially contingent on the physical context where they are used. One participant encapsulated how development work in some BFD contexts would present challenges:

“And so I think as an international NGO, and working with implementing partners in developing countries, that can be unstable in various ways, just that basic implementation can be a barrier. One day your program’s detailed implementation plan can be on track and the next day there's a flood that washes out the bridge that gives us the access to the community that we’re working in. And so I don't want to embellish the picture there but I think that there's that general barrier in the various countries that we’re working in because we are working in very difficult conditions and communities.”

This also included the weather’s impact on BFD program participants:

“The biggest challenge we faced at the beginning, or mid-last year ... was that there was a really significant drought in this area. And you know droughts are indiscriminate; they affected all of our farmers ... Either their primary income source or their sole income source was gone.”

“Rainy season, [farmers] can suffer... and on your bicycle you are coming to work when it’s rainy. And when they are getting back home, it is worse when they are getting back home. You can be bitten by the rain seriously because the bicycle is just open.”

Taken together, there were a number of ways in which executives highlighted challenges related to BFD work, especially in terms of environmental conditions, governmental regulations, and the material nature of the bicycle. At the same time, they also emphasized the importance of the bicycle for individuals, communities, and even countries – in the following sections, many of the benefits of the bicycle that executives discussed are also identified by bicycle users’ themselves.

UGANDA

1. A key transportation tool to facilitate ‘living positively’ and collecting health medication

One of the key findings emphasized by research participants in BFD programs in Northern Uganda was the way that the bicycle was described as an object that facilitated the collection of health medication for women identifying as HIV positive. As all participants in the research live in rural areas of Uganda with limited public transportation options, and even less options for travelling via personal automobile, the bicycle was extremely important for women to travel long distances (often more than 15-20 km) to health centres for regular health check-ups, the collection of medication, as well as other health treatments as necessary, for example sexual and reproductive health. For instance, one participant noted that:

The bicycle has helped so much in the sense that it has made it very easy for ladies to go for their antenatal visits. We easily pick our bikes and ride to visit the hospital. Then also, it has also helped them if a child is sick, if their babies are sick, they easily rush their children to the hospital. Then also, for vaccinations. It’s easy to take the children for vaccinations.

Another interviewee also said that:

You can use them [bicycles] to provide access [to] medical services. For example, if someone is pregnant and is due for delivery, that person can be taken. Sometimes there’s a challenge, like with using bodaboda [motorcycle taxis] because you find that a bodaboda will need fuel.



Figure 1. Transport to the medical clinic

Previously, before being involved with BFD programs, women and girls would be required to walk to health centres, which would take up most of their day and time (often spending the whole day travelling). In addition, without the bicycle, women and girls would incur transportation expenses once they reached public transportation or if they chose to hire a bodaboda. Thus, without the bicycle, there were various challenges in participant's day to day lives:

Like, before I got the bike, I had very many challenges. For example, I didn't have a bicycle to take me to the health centre. When I get sick, I didn't even have a bicycle maybe to send someone for water or go and pick for me meds. And when I was diagnosed with HIV, there was no one who would listen to me at home, and I didn't have friends. People saw as if I was a burden and I didn't have anything. So no one was willing to support me.



Figure 2. Picking up medication

Before I joined the bicycle project, I was trying to survive, but things were not a little easy, because if I wanted to go to the market and sell something, I didn't have the bicycle to take me. If someone was sick and I wanted to go and visit, I could not go, and many other things that I wanted to do, I could not do them.

The bicycle was crucial for not only efficient and quick transportation, but also saved costs of transportation. Many interviewees also emphasized how when a person was very sick and needed to get to the hospital, the bicycle was crucial for transport:

If you are to save someone who is sick, you are also able to because those days, in the early days, people used to carry people on their back to take to the hospital. But now, because of the bicycle, they are able to take someone to the hospital so easily.



Figure 3. Transportation to the hospital

In many instances, women and girls would be able to travel together via bicycle as well, supporting one another on their journeys and during health centre visitations. Through this, the savings group was more than just a group of women utilizing the bicycle – it also was a support system for women living as HIV positive, as discussed in part in the next section.

2. Bicycles savings groups for women's empowerment and livelihood activity

Another key finding of fieldwork conducted in Uganda was the ability of women and girls to self-organize 'bicycle savings groups' whereby usually 30-35 women would be involved in a self-governed, self-sustaining group where each member would save a specific amount of money each week (or bi-weekly) to contribute to the savings group.



Figure 4. Savings box for bicycle savings group

The ability to create and organize as well as oversee their savings groups was key for many participants:

Interviewer: So maybe could you tell us about the bicycle program that you're involved in?

Interviewee: Like, we start with a group and in this group we select leaders, chairperson, secretary and treasurer. The constitution should also be there. And most importantly, respect from group members.

Self-organizing the group also meant sharing ideas with one another – ideas that would assist in living their day-to-day life:

Interviewer: When you share ideas in the group, what kind of ideas do you share?

Interviewee: How we can—we raise up our children, like are you paying school fees, are you not paying school fees? Do you have any challenge regarding that? There are some people in our group, when you look at them, you see this one that someone is struggling, so you talk to them.

Each bicycle savings group (which are premised on pre-existing models of village savings groups and loan associations that offer banking services to people living in rural areas) would also hold weekly meetings where money was collected and women and girls had an opportunity to discuss their lives, challenges of living with HIV, as well as a support system in which to assist one another if needed:

What I like most about the other group [other BFD groups they meet with] is that we normally stay together and we—so like, we seem to love one another. That way, we are going to a meeting—so like, when we organize those pori taking [food and gift giving] sessions, we will play music and we dance and enjoy.



Figure 5. Bicycle savings group meeting

What I like about my group is that, like, it [the group] keeps us together, and it makes me have hope for the future. Because when we meet together, we feel there's something that is going to come in the future for the group that will benefit all of them.

The savings group would allow members to borrow money with a very small interest rate for the money to be paid back. Upon repayment, this would increase the overall groups savings amount. Approximately once or twice a year each bicycle savings group would distribute the money to members, which would be used by members for family support, educational costs for children, food, living expenses (such as building houses), and other costs that participants spoke to (e.g.,

medication). In many cases, the bicycle savings group was connected to the actual bicycle due to the way in which many members of each group were able to sustain their contribution to the savings group based on their livelihood activity, which was facilitated by the bicycle. For instance, many members sold agricultural goods, which were vended in different markets at various distances from homes:

Interviewer: And what's the activity you use the bike most for?

Interviewee: Market, almost every market day I uses it. Saturday, Sunday, the market— Sunday, Monday —the Saturday one is a little closer, so I need—it [the market] is always packed.



Figure 6. Selling goods at the market

Other participants noted how the bicycle was effective for supporting their business and livelihood, perhaps even reducing poverty in some instances of group members:

So the bike has helped in lot in simplifying work. Before, I used to carry water on my head from the well to home, but now I carries about four jerry cans of water on my bike at once. So I saves time, and then does the work easily. Then, other than transport, the bike has also helped support my business. After packing my groundnuts, I supply them to the shops that buy them very easily. I just pack them and then get on my bike, ride them to the different shops where I distribute the groundnuts for sale.



Figure 7. Using the bicycle to carry water

Yeah, initially, we used to have a challenge. Most people didn't have bicycles to, like, take their things to the market. But now, there seem to be bicycles everywhere in the village, and the degree or level of poverty seem to have reduced because people are engaged one way or another to something that brings them income.

The bicycle assisted in an increase in livelihood activity due to women and girls being able to reach markets quicker, with more products to sell, as well as to reach multiple areas. Previously, when walking to markets to sell goods, participants found it more challenging and if an individual were to run out of products to sell, they would return home. Overall, the ability to cycle as well as increase livelihood activity assisted in contributing and being a member of the savings group.

3. Gender norms, gender relations, and community development

While there were many key benefits of the bicycle and bicycle savings group based on fieldwork in Uganda, there were also many challenges involved with women using the bicycle as a form of transportation and for specific developmental purposes as spoken to above. Due to gender norms and relations within Northern Uganda, women and girls are often assumed to be the primary caregivers of families and children as well as the individual who is often required to engage in domestic work:

You will find out that most ladies drop out of school due to other factors, early marriages, they get pregnant. So they—most ladies don't have that qualification—compared to men. And then on the issue of business, ladies have a lot of domestic work. They have to take care of children here and there, they have to clean the home. So it is preferable for men to operate the businesses, since they have less to do at home.



Figure 8. Using the bicycle to collect wood for homesteads

I gave birth to six children. Among all these children, only two don't study, but the other four study. All these children, I am the one who keeps them. But this husband of mine doesn't help me in any way.

In addition, many participants in this study spoke to the way in which alcoholism in the community by men was a key driver for poverty and family challenges. For instance, in some cases, participants spoke to how bicycles that were provided to women would be taken by men:

Interviewer: So how about the relationship between men and women in this community?

Interviewee: There seems to be some conflict between the men and women because most—many are engaging alcoholism. So you also find situations where someone is staying in the marital home, but they don't share beds. So the bicycle also brought some challenges in families. For example, we heard that one of the ladies who was given a bicycle, the husband picked the bicycle and went with it to their home, and did not bring it back.



Figure 9. BFD group member with her husband

While this was not a common experience, it was raised by several research participants due to the way in which the husband is often seen as ‘head of the house’. While many participants shared bicycles with their entire families, other women and girls spoke to how the bike would be used primarily by the husband:

Interviewer: And if your husband wants it [the bicycle] at the same time as you, who usually gets it?

Interviewee: Since he's the big man of the house, he is the one who takes the bicycle. For me, I foot. Like yesterday he got the bicycle and me, I had to foot.

In these instances, the ability for bicycles to enhance women's lives seemed to be complicated and – in some cases – jeopardized by gender relations and norms. And yet, while these challenges became clear in many cases, women and girls involved in this study also suggested that the bicycle had given them: (1) more independence (by improving their ability to engage in livelihood activity, especially if husbands were not working but engaging in drinking); (2) contributed to having a support system by being involved in the savings groups (especially for participants involved with husbands who were in polygamous relationships or for individuals who were widowed, which many were); and (3) gave them an individual and collective source of pride as within their community for the work they were able to do due to the bicycle (and also, becoming recognized in the community for their ability to share the bicycle and contributing to community development via their farming, product sales, and other economic activities).

4. Inclusion and exclusion of bicycle for development programs

Another key finding based on Uganda fieldwork was the way that BFD programs, and bicycle savings groups, were both inclusive and exclusive. While participants spoke to the importance of

having HIV positive women-only groups, and why this group should be the focus of attention by NGOs and BFD organizations (based on the daily challenges they face), while interviewing other community members, it became clear that individuals felt excluded by membership regulations. For instance, many women and girls living in the community who owned bicycles – but were not members of bicycle savings groups due to their HIV status – felt that this was unfair. Many of these women and girls had to buy their bicycles (a hefty cost for many living in rural areas) rather than receiving a bicycle through the BFD programs. Many times, they would question why is it that BFD NGOs or programs only focused on this specific group, as discussed by one participant not involved in a BFD program:

The advice I would give is when you are starting a group, you don't just select that you want people who are sick only. You should also involve the other people, to also get the help. Because getting a disease is not easy. You should not only select that the people who have only problems. All people who have given birth to many, you should see that if someone is interested in and has the will to join the group. Because I always see these groups where people start, like this one for [organization], only focuses on the sick people. Makes other people to think that I should go and get a disease, that I should also come and get a bicycle. What I think is you should help everyone.

BFD savings groups members themselves recognized the challenges that bicycle ownership brought:

But initially, there was a challenge in the community that those bicycles were only for the HIV-positive people. Now they started sensitizing them that, look here, the bicycle needs are so many. So it doesn't mean that only the HIV-positive people are the ones who need bicycles, but this bicycle is for all of us, so whenever you feel there's a need, please feel free to come and borrow.



Figure 10. Sharing the bicycle with people in the community

In addition, it also became apparent through interviews with both bicycle savings groups members and non-members that men felt excluded. Participants spoke to how many men in the community would ask why is it that HIV positive men do not receive bicycles by NGOs. The result in some cases of this exclusion led to jealousy, bicycle theft, and other harassment of women and girls in the bicycle savings groups.

There are many cases of theft of the bikes, basically because there are few bikes within the community, and there's also writing on the bike that makes signals to the community

that the bicycles are given for free. So the men get jealous and they steal the bicycles so that the women remain without.

So there is a kind of—the conflict between men and women, where men feel [indiscernible] and yet they are also positive. So why is it that they are encouraging giving bicycles to women and not men, and yet both of them are positive? So, like, men are feeling that, okay, women now are getting more emancipated, and most NGOs and government try to favour women than men. So even in this program they are giving bicycles only to women and not men. So they keep questioning, but why is it that they are only interested in supporting women? Why is it that they are only considering women and not men?

While the theft and harassment of women and girls by men is inexcusable and is due in part to the gender norms and patriarchal underpinnings of Uganda culture in some areas, the bicycles provided through BFD programs may in some instances have perpetuated gender inequality, and challenged gender norms and relations, in this particular community. In some cases, the bicycle may have also acted as a stigmatizing tool by actively highlighting who was HIV positive and who was not. The following recommendations seek to respond to some of these underlying issues.

CANADA

Enablers of the Bicycle

1. Individual skill mastery and 'do-it-yourself' approach

Throughout interviews, photovoice and photocollaging activities, it was clear that the majority of participants felt activities offered by the organization enhanced their understandings of the bicycle (e.g., single speed vs. geared bicycle) and provided opportunities to engage in bicycle maintenance and repair. For instance, Gilberto's perception of the tool wall in [organization] (see photo below) was initially a barrier that was transformed into an enabler through BFD programming:



Figure 11: Tools used for the workshop and build-a-bike programs at [organization]. "[I]t was a good experience, it was a very opening experience to work with tools and stuff." Captured by Gilberto, Interview 4, September 23, 2018.

“These two things were originally barriers, because whenever I’d see a wall full of tools I’d originally be like, ‘that doesn’t apply to me’ ‘cause I don’t really do any hands-on stuff, I don’t really go, bother to dirty my hands with touching tools, but then after I realized what they do and how they work I was like ‘oh’ you know, found this self-confidence in tools, so it became an enabler” (Gilberto, Interview 4, September 23, 2018).

Participants also commonly expressed how programs and its culture enabled them to use the skills they have learned in programs such as Build-a-Bike in their daily life, while cycling, and outside the organization’s community and cycling context. More interestingly and similar to Gilberto’s quote above, many of the participants did not identify themselves as a cyclist or a part of the cycling culture in [Greater Toronto Area]. Only after joining the organization, their perceptions changed. Participants perceived themselves identifying closely to a cyclist identity and a part of a community. As another example, Kai said that:

[This] point in my life – that has now become a big part of my life in many ways – it is just a bike, but it symbolizes me discovering this new thing that is not just a hobby for me... I think a lot of people would have just given up on it [...] whereas I continued. And I think I took it far beyond where I think other people would think it would be able to go in terms of, just as an actual bike vehicle, and yeah, so I think it just represents like a new portion of my life that I think I wouldn't have experienced or become aware of if it wasn't for that whole process. So yeah, I think that's pretty much it, I just developed a new hobby, I would say it's a little more than a hobby but it did something that's very long lasting. (Kai, Interview 6, October 5, 2018)

The quote by Kai, and as many individuals expressed, illuminates how workshops (e.g., learning to safely cycle around the city and building a bike) enable individuals to discover new hobbies such as fixing and building bicycles and cycling for leisure or transportation. In turn, some of the youth also found that this new hobby allowed them to gain a greater sense of mobility, independence, and freedom. As noted by Natalia:

The ability to have a bike [...] helps with my mental health, [...] I get the freedom to go pretty much anywhere, whenever I want, [...] it’s very freeing, and it’s very nice to have the knowledge to have [...] to build something. That can be so freeing, [it] is freeing in its own way. (Interview 2, September 12, 2018)

Moreover, interviews from both Gilberto and Kai expresses journeys of empowerment and self-development, with both expressing narratives of self-realization and new-found capabilities. Importantly, this was also common in the group discussions facilitated during photocollage presentation and digital storytelling.

In addition, and interestingly, many individuals felt that the ‘hands-off’ approach taken by staff actually enhanced their ability to improve mechanical skills, as described by two interviewees:

[Organization] had this great system where it was almost like a personal training, like they were not letting me get anyone's help, like I couldn't get anybody's help...And yeah, it was difficult, I'm now going to say, but I'm very, very happy that I learned that because now I feel very confident about fixing bike wheels. I haven't fixed a bike wheel in three years, but if you were to ask me to replace a tube right now, I'll do it. (Jordan, Interview 7, October 7, 2018)

I've been doing a lot of learning on my own, like when it comes to coding and data analytics and whatever, and so I guess, like, also part of the learned process was doing the workshop...I was also learning like hands-on, physical, technical skills. So I think that really aligned with what I'm going through in life right now, just like learning and being more independent. (Mabel, Interview 5, September 28, 2018)

Overall, while individuals stated how the Build-a-Bike program “was difficult” and “labour intensive”, the primary takeaway by many was that the hands-off approach and ability to learn first-hand (i.e., through their own work) was “rewarding” due to the way in which individuals were able to master the skill of mechanically constructing their own bicycle (Mabel, Interview 5, September 28, 2018). At the same time, peers within the workshop – especially those who had built a bike previously or been involved in repairing bikes before – were available to laterally support others if needed. “[B]eing able to go through [organization] program allowed me to [...] learn how [to build a bicycle], [...] it feels so good [...] I also worked as a mechanic, a peer mechanic, helping to teach kids how to build their own bikes.” (Natalia, Interview 2, September 12, 2018).

Having peers who would assist others and have opportunities to work as bike mechanics enables the organization to provide the participants with an engaged support system. This relates to the second theme of how the bicycle and the organization provides a safe space and inclusive community.

2. Creating safe space and an inclusive cycling community

A second theme derived from this project, was the way the organization created a safe and inclusive space which were evident within the physical space, through staff and program participants, and the programs' structure. As Mabel expressed:

It [organization] was a very inclusive space for youth, it was, like, in a way that it's one thing to have a youth program, but it's another to have an inclusive youth program [...] 'Cause like this one, they ask you for your pronouns, which is such an awesome thing to do for kids who might not know, you know, their gender identity or just feel uncomfortable or feel ostracized by other people who didn't respect that, and they always made sure to teach kids boundaries, and teach kids consent, and teach kids to respect other people's boundaries...In addition to the technical skills that you learn in the workshop. 'Cause anybody, any bike shop, can build a workshop, but I don't know how many would be as inclusive and as considerate as [organization]. (Interview 5, September 28, 2018)

In a similar vein, Joanna described how the organization provides a sense of comfort and safety:

...if I were to describe it with two words it would be like, an opportunity, and also, like, a family. And with family, because Alix, Ainsley...All the people who work at [organization] or all the volunteers are super nice and super welcoming. You'll always feel like [organization] will be like a third home for you, or a second home for you. And... like, literally I just, went, like, right now, to the shop and I was talking about how stressed I was for homework, and Ainsley would be like "oh, you can always just come back here and do your homework here after school, you can drink some coffee and have some biscuits". Just like, an environment like that is really welcoming and inviting. (Interview 1, September 12, 2018)

Jessica also expressed how the organization creates a safe space to learn by resisting the standard way of education:

I do think that the organization resists it [...], it's a shift from the way that I'm educated in school, from the way that instructors have engaged with me and my peers growing up. Everything is hands off, like whereas at school you are kind of left without any tools to support yourself, or you're given all the answers. There isn't that development on you teaching yourself and you empowering yourself by engaging with... something that is for you in the end. So I would say the organization resists, like, maybe a standard way of education. The organization also provides ... a vegetarian lunch every day, for free, which you don't get at school. So, I think it supports people at a range of financial experience. And you have to clean your own dishes and really take care of your own space [...] Yeah so I think the organization resists a lot of issues that we've identified so far in the city and in society overall [...]. (Jessica, Interview 3, September 15, 2018)

The excerpts from the interviews above highlight how the organization provides their participants a safe, supportive, and welcoming space. Mabel's, Joanna's, and Jessica's descriptions signify [organization name] strength as an organization and the programming they offer such as the girls, trans and non-binary Build-a-Bike program – which empowers youths of all social identities (i.e., race, class, and genders). Inclusivity and safety emanates within the workspace; through the ways the workshops are taught, to the way the staff prioritize supporting participants beyond the cycling and building a bicycle environment. Thus, while the bicycle is the object that brings people together at the organization, it is the safe space and welcoming nature of staff, program users, and programs that upholds its diverse space which supports youths from all social identities. Importantly, the organization offers opportunities for the youths and program participants to take part in the organization's decisions.

They have a lot of, like, discussion-based things and so sometimes I come to share things that I don't know, just your, like, some ideas. The thing that I really like about [organization] is they allow us to be part of the decision-making process and that's important, so I try to come in anytime that there's an opportunity for that. (Kai, Interview 6, October 5, 2018)

Additionally, as Joanna explains when the organization was applying for a community grant, executive members directly ask participants for grant ideas. Joanna proposed to create a "bicycle

sculpture” for a community grant application – which ultimately was chosen to be used for the proposal and was awarded a community grant (Joanna, Interview 1, September 12, 2018). Through these types of opportunities, participants like Joanna feel that they are included – and feel that they are essential stakeholders in the organization’s executive decisions.

Taken together, BFD programs are not just an opportunity for individuals to peer-learn and master individual skills such as bicycle mechanics, but also an opportunity to become bike mechanics, and to be stakeholders in decision-making processes. Furthermore, these opportunities were made possible because of the safe and inclusive space the organizational community provides. However, as seen in the following sections, not all bicycling communities – or even cyclists – are as inclusive.

Barriers of and to cycling

1. Cycling identities and intersections of class, race, and gender

The organization’s safe space also appeared to influence and raise important social justice advocacy amongst program participants. Indeed, participants were critically aware on how cycling was entangled in class, race, and gender relations, and how the cycling culture in the broader Greater Toronto Area seemed to center around predominately White, able-bodied, middle-class males. For instance, Lamia noted how the Build-a-Bike workshop differed in comparison to the common norms of the cycling community:

So the workshop that I first joined here was the women, girls, [and] trans [Build-a-Bike program] [...] I think that's great and that's what stood out to me because, like I said, talking about how older people teaching me how to bike – it’s also a very male dominated thing when you go to certain spaces. It just felt like okay, there are other girls out there who are biking and they're badass. You know I want to be like that one day. I want to feel great about myself and have a great bunch of people I want to go biking with. Definitely, that's coming along together, there's no time limit. (Interview 9, October 9, 2018)

Furthermore, many interviewees were also critically aware of how Greater Toronto Area’s exclusive cycling culture impacts cycling accessibility within different communities around the city. In relation, many of the youth participants knew that the organization was a space that advocates for inclusivity around the city:

I think we're very diverse [Greater Toronto Area] but that diversity is interesting because it still falls within the structures that we would anticipate. Many immigrants, yes, but a lot of those immigrants are low income, and may not have access to cycling or cycling infrastructure or in fact even transportation infrastructure right, as there is a huge issue with transportation including in the Greater Toronto Area especially as the city becomes more gentrified. I'm still walking because I'm able to live in the downtown core, where there are people who have been pushed outside, and those people don't have the ability to pay for cars, and the public transit infrastructure isn't that great, unless you get into the Greater Toronto Area and not only that it's quite expensive, so I'm very interested in kind of how

those structures maneuver, and then also getting other people's stories out there, I feel like biking is a community and that's again another reason why I continue to be active in [organization], I think biking is still a very white-centric and upper middle class, high income, kind of, centric, mode of transportation. (Kai, Interview 6, October 5, 2018)

Other interviewees discussed how they themselves were implicated within the intersections of race and cycling:

Since I've done this program, it's kind of allowed them [friends] to think of me as even more dynamic, which I think is something that I have struggled with, like being forced into one role, one kind of understanding of who I am. And I guess it is kind of connected to demographics, because people do see cycling as this really white thing, and my friends, like I would say even my white friends who have kind of stereotyped me or put me in this box of like "you are very urban but a different kind of urban" but then by me being so excited and happy and, um, just like so forthcoming about participating in this program, I guess, it kind of forced them to challenge the way that they perceive me and to recognize that, you know, cycling is also a really African thing to do as well, it's not just a white thing (Jessica, Interview 7, October 7, 2018)

Similar narratives and photos elicited how class structures privileges access to bicycles for certain people in the Greater Toronto Area.



Figure 2: Accessing bicycles. "[B]iking [is] a very useful form of transportation, and at the same time [...] this means privilege, not everybody's privileged to [...] ride a bike, not everybody is able to afford a bike." Captured by Jordan, Interview 7, October 7, 2018)

The program really opened my eyes up to a lot of the low-income disparities that are faced, especially when it comes to biking...you walk into a store it's \$150, does it really

need to be that expensive? Is there something we can do to help the low-income brackets? Because if you see statistically people of lower-income backgrounds, and who tend to identify as African-American tend to suffer from greater health consequences, lower access to resources to getting good health. So, tying back to the idea of biking, it can be great, inexpensive source of transport. Why are we trying to make a profit out of something when we're trying to make our community better? It doesn't really compute that easily in my head. [W]hat I really see is the privilege that's tied to biking. (Jordan, Interview 7, October 7, 2018)

While members of the organization were aware of the opportunities that cycling and programs offer towards diverse groups of people, they were cognizant of the many ways in which cycling itself is still inaccessible for various complex reasons (i.e. predominantly White Middle class men cycling, costs associated with bicycles). Although many youth interviewed continued to cycle after the program, due to these complex reasons such as the inaccessibility of cycling for many populations, some participants did not continue cycling after the program.

NICARAGUA

1. The bicycle as an enabler

For the majority of women involved with the NGO, riding the bicycle enabled individuals to access key resources – such as education, health care services, and water, which are often far from where participants live. As one participant shared, “it would make it difficult to go to school, for the elder people they’ll get sick a lot more, and looking for the medicines would be a lot more difficult” (Participant 9, Interview 9, 2018). More importantly, group discussions reinforced how the bicycle enables individuals to easily carry water back from the water pumps to their respective communities. As pointed out by participants such as Presenter 1, “the water pumps get damaged” and at times requires community members to retrieve water from neighbouring communities (Presenter 1, Photocollage Presentation 1, 2018).

In a similar manner, Presenter 3 depicted the bicycle as an “agente de cambio” or agent of change. As an example she considers the bicycle as a “facilitador de abastecimiento de Agua”, or in English an enabler for community members to access and carry water supplies (Presenter 3, Photocollage Presentation 3, 2018; see Figure 1; top right photo).



Figure 1. *La bicicleta Agente de cambio. The bicycle, an agent of change. Photocollage created and described by Presenter 3, 2018.*

Other participants highlighted how the bicycle was an essential component for supporting the livelihoods of Ometepe residents by: facilitating household and farming errands, participating in community events, and engaging in recreational activities. Thus, to the participants, the bicycle plays “an important role in our work, our everyday life” (Participant 5, Interview 5, 2018). In addition, it was collectively mentioned that in Ometepe the bicycle offered the individuals opportunities to improve physical fitness and health (BFD Group Discussion, 2018). Moreover, as Participant 10 discussed, “the bicycle has helped me because I exercise, so I'm healthier because I exercise and it's also a means to recreation. It facilitates that” (Interview 10, 2018). Similarly, Participant 9 says, “the bicycle [...] helps me to exercise my body” (Interview 9, 2018).

As Participant 10 explains, “in addition to doing exercise, we can help our planet” (Interview 10, 2018). Other interviewees also suggested how the bicycle helps improve the physical and natural environment’s well-being, and promote environmentally sustainable practices. For example, it was collectively agreed in the BFD group discussion that riding a bicycle contributed to local sustainable practices, since riding the bicycle “does not contaminate the environment” (BFD group discussion, 2018). Thus, all of the interviewee’s perceived the bicycle’s contribution to Ometepe’s ecological conservation. Moreover, participants would often compare how motorized vehicles in the community do more damage than good. As one participant mentioned:

If you're using a motorcycle. The smoke from the motorcycle contaminates the environment and the bicycle simply – by using the bicycle it's not a contaminant to the environment. It does not contaminate the air or anything. On the other hand, quite the contrary, it's very useful, it's clean. (Participant 2, Interview 2, 2018)

At the same time as being environmentally friendly, many of the participants also discussed how the bicycle fostered feelings of independence, freedom and mobility, which they connected to feeling safer when travelling around their neighborhood and in between communities:

So, it would take me about, like 25-30 minutes walking fast. It is a place, the roads, the streets are not very good. There's a lot of stones. It's broken, there were many places that were because it curves, you don't have good visibility on what is ahead. It's a lonely place. It was not a good road to take. Even if it was daytime, it wasn't so good, not safe, because it's very alone, there are not many people going there. I had to go to school by myself. I still go by myself to school, but I use the bicycle. When you're walking alone on the road and there's nobody else, it's kinda not that safe. I take the same road when on a bicycle I go faster, I feel safer. (Participant 5, Interview 5, 2018)

Participant 1 (Interview 1, 2018) described and captured how the bicycle elicits feelings of mobility and independence for her, saying that,

The bicycle is a means for transportation and is an enabler for women- many women- to reach their work areas...It's a time saver. Especially, if you're a single mother to drive a bicycle, to have one you can take of the house chores, take care of the children and also be able to go to work easier. Talking about my community, there are a lot of people that work in the field, that are farmers. So, when they are collecting their harvest or fieldwork, you know they're preparing the land for their harvesting...So, it makes it easier for them. So,

it's not only useful for women, but also – we – as a rural community.

Participant's 1 photo further supported a sense of mobility (Figure 2):



Figure 2. Mobility and independence. Captured by Participant 1, 2018.

Through the diagonal lines in Participant 1's shot, there is an emphasis and a sense of movement and instability within the frame. In relation to mobility, the blurriness and diagonal lines represents instability, which can suggest that bicycles do provide ways to escape potential risks (e.g., harassment) on the road. Due to risks and safety precautions in the evenings, participants expressed the bicycle's capacity to play a protective role when travelling alone. For example, Participant 1 explained:

There are places that there are no electricity or public lights. Those are areas that might be dangerous to be riding around because people – especially males – later in the evening might harass you [when you] are riding a bike later in the evening. And we're not talking very late, it's simply there's not electricity. So, if it's dark, they might say things, or they might... It's different in the evenings than driving during in the daytime. (Participant 1, Interview 1, 2018)

Equally, Participant 2 explains through their photcollage that, “ (Figure 3):



Figure 3. “[W]hen we're using the bicycle late in the day, it's kind of dark, it's almost night. So, if I have to go to the store to buy something, or if they needed to go buy something to the store and they can go really fast, giving that it's getting dark and can come back home safely.” (Participant 2, Photcollage Presentation 2, 2018)

Thus, and as Participant 11 describes explicitly, bicycles and safety relates because, “if she has a bicycle, she has a means to go faster to wherever she's going – so that's safer” (Participant 11, Interview 11, 2018).

2. Barriers to cycling

The second finding relates to the infrastructural and economical barriers of riding a bicycle. First, in relation to infrastructural barriers, all participants expressed how the roads were a barrier for riding due to poor road conditions. As explained and showcased by multiple photos and narratives, “the roads, the streets are not very good. There's a lot of stones. It's broken...” (Participant 5, Interview 5, 2018). Since the road's conditions were “broken”, bicycles have a greater risk of getting damaged. As Participant 2 says:

Most our bicycles get damage very easily with flat tires and simply because the roads conditions are so poor. One of the obstacles to bicycling is simply the bicycle gets very damaged soon, very early... and then there not so safe to ride a bicycle in those. (Interview 2, 2018)

Additionally, participants described how the roads were difficult to navigate due to the challenging topography and lack of lighting:

It curves, you don't have good visibility on what is ahead. It's a lonely place. It was not a good road to take. Even if it was daytime, it wasn't so good – not safe – because it's very alone, there are not many people going there. I had to go to school by myself. (Participant 4, Interview 4, 2018)

Bad road conditions, such as dimly lit areas and poor visibility in roads, are commonly mentioned and captured in photos as dangerous spaces. For example, most participants explained how, “there are no electricity or public lights” (Participant 1, Interview 1, 2018). The following photos and descriptions by Participant 2 and 8 depicts why participants believe bad road conditions are difficult and unsafe when riding their bicycles from day-to-day.



Figure 4. If those road conditions are good, it will be okay, but if not, the roads are poor and then they're not so safe to ride a bicycle in those. Captured by Participant 2, 2018.



Figure 5. But you see the picture, the road is in bad condition, it's in bad shape. You cannot use the bicycle, because with roads in this condition, such as this one, it makes bicycling a lot more difficult... Yeah of course, they ride the bicycle, but they have to go really slow because they cannot go fast, because if they go fast there could be an accident. Captured by Participant 8, 2018.

In addition, participants would connect travelling alone with difficult road conditions, “it would be a lot more dangerous if you had to walk all the time, because you can be prone to being abused by people” (Participant 11, Interview 11, 2018).

A second barrier to cycling highlighted by participants was how privilege and class determines who has access to bicycles and to other motorized vehicles. As clearly explained by one of the participants:

I cannot say that every single girl in my community because again, for economic reasons perhaps they do not have the money to buy a bicycle or they don't even have the money to rent a bicycle. So that's the reason why those girls will not be using the bicycle, because they cannot afford to. (Participant 10, Interview 10, 2018).

Moreover, similar narratives and photos further elicited how class structure privileged others (mostly those with higher incomes and socioeconomic status) to have greater access and choice to faster motorized vehicles like the motorcycle or car. For example, Participant 5 describes the benefits of motorized vehicles like the motorbike (Figure 6):



Figure 6. I want to show the difference. I wanted to reflect the obstacles because if I wanted to go from faraway place from my community, I could go in a bicycle. However, if I had an emergency and it was far away, I really believe that the motorcycle, will be like the vehicle that would be faster, 'cause the bicycle won't get me there really quick. (Participant 5, Interview 5, 2018)

This, in turn, provided individuals with the opportunity for increased mobility around the island – although in comparison to the bicycle, they are not necessarily environmentally friendly modes of transportation.

Although it is evident that greater access to bicycle's relate to class structures, it must be acknowledged how participants and community members negated the bicycle's limited accessibility. Participants who mentioned that they (or community members) do not own a bicycle explained that when they need to use the bicycle, they often borrow bicycles from their neighbours, community members, or other family members. For instance, Participant 1 shares:

My mother was not able to afford or didn't have the means - economic means. To get a bicycle for us. She was a unable to buy bicycles for us. It was later on when she was able to get a bicycle. However, we did learn how to ride a bicycle early on, because we used to ask our neighbours or our cousins to lend us their bicycles. We learned how to ride a bike. (Participant 1, Interview 1, 2018).

The bicycle and gender

The third key finding includes the connections between the bicycle and gendered relations. First, the findings show the difficulties women experienced when travelling using bicycles. For instance, during group discussions, it was noted that women use the bicycle to collect water from water pumps and may need to travel to neighboring communities when the local pump is broken. Although the bicycle has the capacity for women to feel free, safe, and at ease in day-to-day activities, the bicycle is still limited in the way it can address violence against women that is experienced in the community. In addition, participants often perceived how – even when utilizing the bicycle – women and girls still ran the risk of encountering violence against women. This is further elicited by Participant 8's comments about riding the bicycle as a girl:

A girl can run the risk of being raped and then pregnancy because we're talking that one community to the next, they're very far away. It's very solitary on the roads and those communities are far away. Riding by herself alone in the community is not that safe, because

they are lonely, empty roads and she could run into trouble. During the daytime it's no problem (Participant 8, Interview 8, 2018).

The second connection relates to the participants' capacity to occupy space in public spaces. Specifically, participants suggest how riding bicycles in public spaces allow women and girls to practice their agency and challenge social constructs and norms (i.e., Machismo culture). As an example, Presenter 3 mentions in their presentation that picture 6 in their mural represents the following (Figure 7):

Now picture 6 – what I wanted to show – [for us] women, the bicycle is beneficial. It allows us to come to this type of meetings that we're having today for instance. For instance, most of the mothers, single mothers, will be able to come to these types of meetings. Similar types of meetings or trainings and they will be able to bring their child with them. (Presenter 3, BFD Presentation 3, 2018)



Figure 7. Photocollage created by GP, Presentation 3, 2018.

Thus, for Presenter 3, she believes that the bicycle enables most mothers to have the choice to travel and participate in public events such as community workshops, recreational activities, and advocacy work against gender-related issues within the community. To this point, although the women and girls encounters risks of violence, there are still pockets of resistance to be found when they cycle. For example, Participant 3 believes:

Using bicycles can help somehow [when] talking about the difference in genders, male and female. When both men and women are using bicycles, [...] it allows other people to see them to observe them to see them as equals [...] And when the males see us do things, then there's that learning that women are also able to do that, [...] So, this is a way to change a perspective, a way of thinking in our community. If they see us both using the bicycle, then our community will stop being 'machista' or machisto' ideas. Then they'll see that both men and women can use it. [A]nd in this way we can decrease 'Machismo' within our own people and as well as for the generation in the future.

In Participant 3's perspective, when a woman practices her agency to ride a bicycle, this directly resists Machismo (sexist) ideas in their community, contributing to reducing Machismo culture in their communities for the generations to come. Moreover, in the conversation between the

interviewer and Participant 8 reflects similar perceptions on how riding the bicycle enables some women to exercise their rights to freely move and assert themselves in their communities' public spaces:

Interviewer: What are you thinking? If I have a bicycle, what type of things can I do, what type of rights can I exercise?

P8: Well to move ahead. For instance, if the women wants to go some place. [People may say,] "Oh don't go out since something can happen." And women will say, "no don't worry I know how to ride the bike and I'll drive careful and don't worry nothing will happen to me, 'cause I'm careful of riding the bike." It allows them to go from one place to another. (Interview 8, 2018)

Thus, the discussions and photos above showcase and suggest that even if there are perceived risks when cycling alone as a female, there are still instances when cycling provides women and girls an opportunity to practice agency to dispel gendered and cultural norms such as Machismo culture and exercise their rights in occupying public spaces such as the road.

INDIA

1. A key tool to facilitate access to education

One of the key findings spoken to by the research participants involved with the organization and the bicycle bank (i.e., a bank which provided bicycles to young women and girls) was that the bicycle was an essential tool that facilitated access to education. As all participants lived in rural areas with limited public transport options to take them to high schools in neighbouring villages/communities, most of the young women explained that without access to a bicycle it would be impossible for them to complete their high school education and continue on to college.

Participant: Because in my village there is no high school...No way to get to this school so bicycle is the only way.

Interviewer: Would you still be able to go school or would it be too hard?

Participant: It's too hard. Walking for 5 kilometers is not possible and how I can study after that?

Yeah she feels very nice about that, that I got a bicycle for education, otherwise the education would have stopped it.

There is no cycle they wouldn't have support for their education... I don't think of what would happen without the cycle.

Having a bicycle also allowed the young women to pursue high school at schools that were seen to be better resourced, had English language education, and helped prepare them for college.

Interviewer: Where would you be now if you didn't have your cycle before?

Participant: Then I cannot go to that school which has the same English medium, I go to – uh – take education in this school only.

Interviewer: What would happen if you didn't have a bicycle?

Participant: I need more time. I save money and time because of the cycle and I would not be able to go to college.

In other cases, some participants said that having access to a bicycle assisted them in being able to reach their full potential and reach their academic goals:

Someone said that cycling increases brain power. Maybe because of that I got distinction in SSC exam and pursue my dream of becoming engineering. I think the cycle is the secret of my success.

Relatedly, having a bicycle saved them crucial time. In this way, they were able to reach school quickly, and also get back home. This allowed them to fulfill their household responsibilities. Being able to do both school and household chores meant that the young women's families were more supportive of them continuing their education.

The girls save the time and in that save time she can work in the house, she can study. So parents are supportive.

She can reach on the school or home on time, and the parents don't have to take, don't have to wait for them.

In this way, having a bike cut the time needed to travel to and from school, enabling them to still have time to complete their studies and help with household labour that the girls were expected to complete daily.

2. Increased mobility, a sense of independence, and perceptions of safety:

Another key finding of the fieldwork conducted in India was that the bicycle drastically increased the mobility of the young women. This newfound mobility led to an increased sense of independence and confidence among many of the participants. For some, having a bicycle meant that they were no longer reliant on their parents or others for transportation:

Bicycle helped me to develop independence. I used bicycle to take short trips. I spend almost every evening cycling with my friends. No longer dependent on parents to transport by motor vehicle. Instead I am able to visit friend and destination I could never manage on foot.

With the bicycle we are becoming independent. We can go anywhere we want. No need for someone's help.

[Usually] there should be someone [with me], but this need is surrendered by the bicycle because I feel the cycle is company for me. I'm independent and don't need anybody else

Increased feelings of independence and mobility fostered opportunities for the young women to go to other places beyond school and home. For example, many participants discussed how having their own cycle now meant they could visit the market, their friends, go to other villages, or deliver important messages for their family members:

Participant: With the walking it's not possible, our parents would have not told us to do that, and going to the market and taking something is more enjoyable.

Interviewer: What would you do if you didn't have the bike? Would you just not go to the market?

Participant: No.

Interviewer: What do you enjoy most about using a bicycle?

Participant: I can go to neighbouring village. I have fun going to a neighbouring village on the cycle.

If mother told me some work then I was to go there. On the cycle, like bring something to use a message to someone. She was to go there by cycle.

At the same time, while many of the participants often made note of how they would ride their bikes with their friends to school or the market, they also spoke of the bikes as a technology that increased their safety. Because the bikes allowed them to travel at a much faster pace than by foot, they often felt more comfortable travelling to different places by themselves. Participants spoke to how their bicycles would act as their 'company' if they found themselves on the roads alone.

The road is lonely and the four kilometre going by walking, it takes too much time...and the road is lonely and I feel the cycle is more it's the safe thing.

That road is not good with going or coming, walking is not...I feel scared

If I have a bicycle I can go fast and walking up, it gets dark early. In the dark you have to walk, it's not... I feel scared.

I used to go alone with the cycle so I feel the cycle is company for her.

The bicycle seemed to mitigate the risks that the young women might have if they were travelling alone both at night or during the day. The road was seen to be an unsafe place for

young women or girls, and the bicycle both provided protection and a means for them to get to their destinations much more efficiently.

3. Sustainable Community Development and Facilitating other Economic Activity

The research also revealed that the bicycles were a key tool that helped to facilitate broader sustainable community development and other economic activity in the villages. Particularly, the girls and young women often used their bicycles to support the work on the dairy farm and to transport goods from the fields to the market. Many of the young women's mothers are actively involved in dairy production as a means of economic development, and the girls were able to support their mothers by helping in the transport of milk or food for the cattle. For many of the young women, this was seen as a key benefit of the bicycle because it contributed to the earning potential for their family.

Interviewer: What was the best benefit you had from receiving this bicycle?

Participant: she can help her mother[‘s work] in that same time.

Interviewer: So you used your bike to go to school, but did you use your bike for anything else?

Participant: Yeah she used to bring the milk for the dairy on the cycle.

For the family's business... she has the cattle and the milk, she has to give it to the dairy.

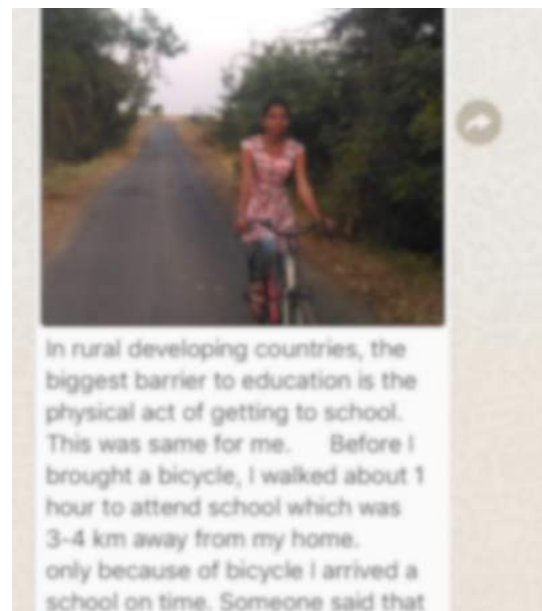
One of the organization's other programs involves self-help groups and village-run microfinance systems. Village women successfully run and manage micro-credit models and loan collectives. One result of these self-help groups was the establishment of a women-run dairy cooperative and poultry farm. The bicycles that the young women had were seen as an asset to increase the production and transport of milk/materials. Having additional support from the young women using their bicycles, meant that the earning potential from milk/poultry sales was increased.

4. The use of Whatsapp as a Monitoring and Evaluation tool

The research design had always intended to use cameras and photographs as a way to challenge traditional power dynamics in research settings, center the young women's voices and experiences, and gain a deeper understanding of the meanings of the bicycle that might be lost through traditional interview formats. In many research contexts, the researcher has the power to represent and 'speak for' research participants, which can sometimes lead to a misrepresentation of research participants' perspectives/experiences and a reinforcement of problematic hierarchies in the research process. The use of photovoice here was an attempt to center the young women's voices and experiences, allowing them the chance to determine how they would like to be represented and what stories they would like to feature. When working through the project design, the research team had initially thought about purchasing and providing cameras for the young women to use. However, after discussions with the organizational leader, it was decided that purchasing cameras was impractical and could produce safety concerns, and that printing the

photographs would be difficult. We learned that some of the participants had their own smartphones, or had access to one through their family members, and that all of the young women were proficient with the use of Whatsapp. This made the use of cellphones and messaging technology a relatively accessible and cost-efficient medium through which to conduct the research. We decided to use this messaging software because it had secure end-to-end encryption of all communication and images, and because we would be unable to print any of the photographs while the research was being conducted. Below, we offer some reflections on the process of using Whatsapp in the research process and benefits of this research technique.

Overall, Whatsapp worked well, with the participants feeling comfortable and excited to use photographs to share their experiences of having a bicycle. Many of the participants commented on how this was a new experience for them and seemed eager to have a chance to reflect on their use of bicycles and the meaning of the bicycle to them in a creative medium. Using Whatsapp enabled the participants to share their chosen photographs with the lead researcher and helped to facilitate an in-person conversation about what they chose to capture. In two instances, research participants were unable to attend the follow up interview after they were given their photography assignment, and using Whatsapp allowed them to share these photos with the researcher remotely. This made it possible for them to describe what they were trying to convey in their pictures by providing captions along with their photographs.



Additionally, in these cases, it allowed for the researcher to maintain communication with the participants, or ask for clarification over instant messaging. The example below shows a conversation had with a participant about the photographs she shared and what experiences they represented for her.

Bicycle helped me to develop independence. I used bicycle to take short trips. I spend almost every evening cycling with my friends. No longer dependent on parents to transport by motor vehicle. Instead I am able to visit friend and destination could never manage on foot.

11:20 PM

You
One question. How did you solve problems on your own?

Sometimes creaking sound came from pedal. I fixed it by tightening bolt. Sometimes cycle speed reduced because of more use that time I was applying grease to parts of bicycle.

6:07 AM

Oh, great! Was there ever a time you were not able to solve the problem on your own?

8:07 AM ✓

Yes

8:13 AM

What were those problems? What did you do then and who helped you?

8:13 AM ✓

Many times tube get punctured..I couldn't able to fix it. That time I had go to mechanical or cycle

When there was some problem with bicycle which require more time to fixed.But I were still able to reach on time. I had to take lift from motor vehicle drivers. .

8:52 AM

Oh wow! People would stop and give you a ride on the way? And you'd pick up your bike after school? Would you just leave it where it broke down?

8:56 AM ✓

Yes

9:10 AM

First priority was to reach school on time. I picked up bike after school and repair it at repair shop in my village.

9:15 AM

There were also some unanticipated photographic decisions that were interesting and compelling through this research project. When we had introduced the project to the participants, we explained that we were looking for them to capture their experiences with their bicycles – e.g.,

the best thing about having it, the benefits of having it, what it means to them, as well as any challenges they faced (such as barriers to using it, unsupportive environments, breakdowns, road conditions, etc.). We also asked them to feature their day-to-day experiences with their bikes, such as how they use it, who uses it, and where they go with it. We deliberately were as vague as possible to allow the participants to creatively express themselves in whichever ways they liked. At the same time, we did emphasize that the bike should be featured as much as possible and that they should avoid taking images of other people's faces that are not their own. The goal was to understand the role, place, and meaning of the bicycle in these young women's lives, and we assumed that meant that most images would feature the bicycle in different locations or environments. When the participants returned with their photographs, we were a bit surprised that all of the pictures were either 'selfies' or photos of them on their bicycles. This was a very useful reminder to the research team that the object of the bicycle cannot be separated from the embodied practices and experiences of having it and using it.

SOUTH AFRICA

1. Bicycles as an investment

Every cyclist researchers spoke to emphasized the financial benefits of using a bicycle. By cycling, they saved R200 per week on transportation, as the only other available option from the township are public taxis, which cost R20 for a one way trip from the townships into the CBD of Bloemfontein.

In acquiring, maintaining, and modifying their bicycles, the men we spoke with demonstrated various forms of ingenuity, to address both practical as well as safety concerns. Although the men were able to save a great deal of money by choosing to cycle instead of taking public transport, there were still costs associated with maintaining their bikes—some estimated that it would cost R100 every couple of months. Many of the men were also comfortable handling their own repairs, or had neighbors or family members that were capable, while others would bring their bikes into one of the shops in the city for repairs, as their bikes and component parts required particular tools.

In addition to routine maintenance and repairs some of the men we spoke with also made modifications or additions to their bikes. For example, Pule mostly used his bike for transporting materials, both for his employment and for his household. Using the wire from an old refrigerator drawer he was able to construct and attach a basket to the rear of his bicycle. Other men created homemade lights, reflectors, bells, and horns to address safety concerns and to make sure that they were seen and heard on the road. Only a couple of the cyclists mentioned safety concerns, in terms of being targeted by thieves, and one cyclist had attempted to address this by attaching a club to the frame of his bicycle.

In terms of the risk of theft, all of the cyclists acknowledged that precautions had to be taken. When at home in the township, bicycles remained in the house, as it was explained that if they left their bicycles outside there would be a good chance that they would be taken. At work, the men all had secure locations where they could keep their bikes. Taking bikes into the city for shopping was identified as one of the more likely times that a bike would be stolen.

The cyclists we spoke to noted that bicycles were not merely investments for financial purposes, but also provided health benefits. In addition to the financial reasons for cycling, a number of the men we spoke with also explained that the benefits they received to their health and physical wellbeing were reasons why they continued to cycle. When presented with the hypothetical situation of owning a car, or being able to take public transport, they said they would still cycle because of the health benefits.

Quotes from participants:

“[I ride] to save money. I save money with it and its safe because I know how to operate it on the roads” (Pete)

“[I ride] to save money, to stay fit” (Abram)

“a taxi costs me R200 for 5 days, per week. It’s a lot of money. I have children to feed, my wife, I’m the bread winner. I pay the insurance policies. Everything is on me. So, I will rather use bicycles” (Shadrak)

“I started to go to work with a bicycle because it saved me money for transport” (Izak)

2. Safety

Every cyclist that we spoke with recognized that safety was a concern. As Shadrak explained, “it’s dangerous because motorists don’t care about us, they don’t care about us.” He had been hit twice. In one instance, as he explained, he was on his way home from work, “it was past 4. So there was a truck next to me. He was closer to me and I was far, far left. He came closer to me on the emergency line. Then, that guy, he hoots. He hoots [the horn] next to me and I lose concentration. Then the side mirror hits me and I fall.” Following this, Shadrak explains that he injured his elbow and hip and had to miss 18 days of work. The truck driver did not stop. Shadrak phoned the police at the time of the accident, there were witnesses that were waiting for the bus that had seen the accident happen, but the police did not feel that his injuries were severe enough to open a case. According to Shadrak, they would only open a case if he was dead, and even then they wouldn’t care.

Nearly every cyclist we spoke to touched on similar themes. It was noted that the roads were dangerous, motorists did not respect or attend to cyclists, and taxis in particular presented risks because of their speed, frequent stops, and disregard for cyclists. Further, the participants interviewed did not feel that the police were interested in dealing with issues of road safety and accidents involving cyclists. During the three weeks of our field work our observations confirmed these concerns. In the mornings and afternoons, as we travelled along RG we noted sections of the road where there was little to no space for cyclists. The shoulder of the road was often covered in debris and dirt, resulting in cyclists having to ride through this material or veer into traffic to avoid it.

Although safety was a primary concern for the cyclists, none of the men we spoke with wore helmets, and from our time observing Rudolf Greyling Road, we did not note any cyclist wearing a helmet. The men that we spoke to about this explained that they would wear a helmet if they had one, or were provided with one, but that expense was an issue in terms of purchasing their own.

A strategy that cyclists employed to address safety concerns was to commute with a partner or with a group. Numerous cyclists commented on the necessity of travelling with someone else, or with a group, in order to deal with tire punctures, or other mechanical failures, as well as in the case of accidents. Cyclists also spoke about the importance of these networks in terms of how they learned to safely navigate the roads, but they gained more than an increased perception of safety. The cyclists that travelled in pairs or in groups had often received bikes, bike parts, or help finding a bike from the people they cycled with. It was rare that cyclists purchased new bikes. Instead, bikes were obtained through loans or gifts from employers, or as an employee benefit. Further, bikes were often purchased second hand from friends or neighbors.

Quotes from participants:

“I’m just always driving the gravel road, beside the tar. Sometimes there are trucks driving, the path, the tar is too small, you can’t just drive in the yellow line, the truck still goes too close and you have to go on the path on the side. Yeah small cars will give you space where you can drive, but I won’t do it every time. Sometimes you’re going to get injured and you’re not, and that is not, and you will not know when that will happen. Sometimes a car will [snaps finger] wheels touch you and will push you around, out of the road, into the road, you won’t know.” (Petrus)

“They are always repairing the roads because some of them [motorists], they dodge potholes and they come to you, so the road marks, the markings are very important” (Shadrak)

“Like here in Bloemfontein it is normally hit-and-run because like in the early hours...that is where you will see most cyclists get hit by cars because there’s traffic, there’s buses that go fast. There’s lots of taxis. Most of the cyclists face traffic, they don’t flow with traffic. These taxis, when they leave town to the location to fetch people, they go to close to 60 km/h, 80 on the fast road and they don’t care if they see a cyclist, they just hit you and run” (Ole)

“[This road] is not easy. You know these people in taxis, they drive badly. Sometimes they see you, they don’t care” (Abram)

“We do have the problem whereby most road users, they misuse the road as much as we do. They don’t care about riders, cyclists” (Pete)

RECOMMENDATIONS

UGANDA

1. Providing bicycles and bicycle-related workshops to all community members, including men and women

One of the primary issues raised by both BFD program participants as well as non-BFD program affiliated research participants was the focus of BFD NGOs on providing bicycles strictly to HIV positive women. While this is extremely important in the sense that this particular group of women face daily challenges (as spoken to by interviewees). At the same time, focusing on a

particular group in some instances excludes others who may not be HIV positive but face many similar challenges in their day-to-day life (such as access to health centres, participation in economic activities such as selling products at markets in the region, access to VSLAs). In addition, while the BFD NGO currently holds some educational workshops (focused on, for example, gender-based violence[GBV]), further workshops about the provision of bicycles, sharing bicycles within the community, and discussions around gender norms and relations is an important next step in order to minimize and ultimately eliminate GBV as well as the harassment of women who receive bicycles. The women who received bicycles seemed especially interested in better understanding how to address theft or harassment that occurred due to their bicycle ownership. Equally, it seems imperative to collaborate with *both* women and men to eliminate such challenges going forward. This could involve, for instance, workshops exploring: (1) why the bicycle is provided (at this time) to this particular group; (2) more effective communication related to sharing the bicycle; and (3) discussions as a community about gender relations in order to respond to gender inequalities. This is essential in order to confront structural inequalities experienced by women in Uganda due often to patriarchal or polygamy in the broader sociocultural society.

A related recommendation is for BFD NGOs to explore means of increasing access of bicycles, mechanic services, and the provision of spare parts for all. An example of what may work is how Bike Against Poverty in Gulu gives bicycles as asset loans to interested individuals. This ensures easy access to bicycles, less stigma from the public, and reduced dependence on NGOs by bicycle-users. Still, a group that may need sensitization when free bicycles are provided could be husbands of women in order to let them understand what is required of the bicycle (proper cycling techniques) and not to abuse its use (e.g., by using the bicycle to attain or drink alcohol) or the women receiving it. Given issues of men drinking in communities where bicycle-use by women is usual, there is also need for intentional action to address the problem of male drinking and family negligence. A recommendation is hence to approach local leaders to set up a bylaw regulating drinking and also bylaws to protect children. Uganda has a Children's Act and has also ratified international instruments like the UN Convention on the Rights of the Child, but as long as men spend a whole day drinking and even have the audacity to sell the women's bikes for alcohol, and abandoning their responsibility to the women, the women and children's rights will continue to be abused.

2. Advocating for enhanced road and travel infrastructure in rural areas

A second recommendation is for BFD NGOs, and bicycle savings groups, to continue to advocate and liaison with political representatives in their communities as well as community leaders (some of which are within savings groups), and other BFD organization in Uganda, such as FABIO, in order to advocate for better physical infrastructure in rural areas of Northern Uganda. While not spoken to in-depth above, bad roads was a common theme raised by participants who noted that bicycles would experience 'breakdown' due to physical conditions in rural areas, often leading to hefty expenses to have mechanical work completed on the bicycle or even the bicycle losing its transportation mechanism. Thus, while savings groups and BFD NGOs were working with government officials and community leaders, further communication with the local government discussing ways in which roads and communities may become more bicycle-friendly is particularly important for enhancing transportation options as well as

promoting environmentally friendly transport. As the first bicycle lane ever in Uganda was recently created (albeit in the urban area of Kampala), this could lead to further developments for work related to more rural areas.

3. Hold bicycle mechanical skills workshops as well as livelihood training

Last, many women explained how the bicycle was essential for providing access to markets for sale of products, as well as improved their ability to engage in livelihood activities. However, many also felt that bicycle breakdown or the need to fix specific mechanical parts of the bicycle in some instances would prevent their ability to carry out work or economic-related activities. While many participants were able to fix their own bicycles, others would need to take the bicycle to a local mechanic, incurring costs. Thus, BFD NGOs – which were in the process of running mechanical workshops – are encouraged to hold bicycle mechanic classes with all individuals receiving bicycles, especially those receiving their first bicycle in the future. In turn, it may be possible to reduce costs associated with bicycle breakdown as well as further personal mechanic education. Having mechanic skills may also open up avenues for future livelihoods, such as assisting others in the community with bicycles or other mechanical related items. In addition, holding livelihood training centering around how the bicycle may be a useful tool for certain activities (selling products at the market; becoming a bicycle boda boda) may encourage individuals and groups towards potential opportunities that they are interested in.

In relation to livelihood training above, there is also a need to help women savings group to grow their businesses. During interviews, participants emphasized the need for more bikes. In addition, participant's businesses earn them very little, such that they remain in impoverished conditions and cannot negotiate bigger bank loans. To break this yoke of poverty and dependence on donor bikes, we recommend livelihood training should also implement training about business skills and strategies to gain better incomes, to support reinvesting and additional support to acquire larger loans and better markets.

CANADA

1. Market the BFD organization and the inclusive space it promotes

Our first suggestion is to have the organization promote and include their inclusive space as a part of their digital and marketing strategies. Many participants felt that the safe space and welcoming community at the organization was unique and somewhat of a 'niche' within the Greater Toronto Area. Given this, many interviewees spoke to how marketing the organization further (creating posters, posting information about their programs around the city, etc.), may bring in further individuals who are underrepresented and are looking to be a part of a cycling community within the greater Toronto area. As mentioned by most participants, these individuals who are a part of underrepresented social identities and areas, such as: people of color, LGBTQI2S+ , Indigenous communities immigrant and migrants, individuals of different abilities, and individuals from low-income households and suburban areas. Thus, we – inclusive of the interviewees – recommend that the organization should further market the safe space that the organization offers to increase membership and welcome more individuals into the cycling community.

2. Work with other bicycle shops and programs to create extensive cycling community

Second, we suggest to expand the cycling community that the organization promotes by partnering and working further with other bicycle shops and programs in the Greater Toronto Area. While the organization already has relationships with many other cycling organizations, interviewees felt that improving and extending such connections with other programs and bike shops might lead to a more expansive, connected, and inclusive cycling community.

3. Continue to involve youth and program participants in decision-making

The third recommendation is to continue to strengthen the inclusion of youth and program participants in the organization's decision-making processes. Indeed, one interviewee said that:

Children and youth, if you can get them involved - 100% get them involved – because children and youth are the leading change. Because sometimes parents won't immediately allow them or won't believe you that well but, if you assess from their perspective, it really changes the parents' minds. (Cinnabon, Interview 8, October 9)

Almost all interviewees stressed how imperative it was that the organization held open discussions with program users and provided a space in which individuals were able to express what issues were most pressing to them. Therefore, we suggest continuing to allow various opportunities for program users to share opinions on organizational decisions would be well-received and encourage youth voices to be heard.

NICARAGUA

1. Collaborating and providing access to bicycles

The first suggestion is two-fold. First, BFD organizations in Nicaragua can consider providing participants access to a set of bicycles by creating a bicycle loaning system, where participants can rent bikes when they need to use it for errands, school, recreational activities, community events, or bicycle workshops and events. This recommendation was inspired by the informal way the participants described how their community lends bicycles to one another. Second, BFD organizations could consider venturing new sponsorships with (a) local bicycle shops to donate a set of bicycles that participants can use and/or with (b) bicycle repair shops to teach and/or fix participants' damaged bicycles. In photovoice interviews and overall group discussion, participants' mentioned that using bicycles provides better mobility around their communities, but many people are prevented in accessing or owning a bicycle due to economic barriers. These economic barriers make it difficult for people to buy or repair a bicycle when it is damaged by the road conditions. Furthermore, the findings from this research can be used as evidence to engage and propose future partnerships.

2. Advocate for better infrastructure and sustainable practices

The second suggestion is for BFD organizations in Nicaragua to consider using the photovoice interviews as evidence to show local government and leaders why there is a need to have better road and water infrastructure (e.g., through public displays, community gatherings, pitches to local politicians). Some of the recommendations BFD organizations can help push forward include: (a) implement a bike lane for the community; (b) improve paved roads; (c) improve access or maintenance to the island's water supply (so that community members do not have to travel long distances to access water through unpaved roads); or (d) sustainable solutions to install lights on the road (i.e., solar or wind powered streetlights). These suggestions are based on the participants' collective understanding about the impacts of the physical environment on safety. Indeed, interviewees explained how poor infrastructure jeopardizes their safety (i.e., unlit and unpaved roads) by increasing their risks in encountering dangerous situations (i.e., broken bicycles or risk of sexual violence). As an example, due to precarious access to water, participants at times have to travel to neighbouring communities to access water for daily use. In addition, participants collectively agree that the bicycle is a low-impact vehicle that does little to no damage to the environment. To this point, using the bicycle contributes to Ometepe's (Nicaragua) sustainable efforts towards climate change and the ecological conservation. Therefore, we advise BFD organizations to use this project's photovoice and murals as evidence. Importantly, we suggest organizations, the participants, and the community to collectively choose 1- 2 recommendations to advocate for. In addition, it is important to consult with the participant and the community to see which recommendation will be the most essential and relevant for the community.

3. Implementing Group Rides for BFD participants and community members

The last set of recommendations is for BFD organizations in Nicaragua to consider creating a group ride program for their participants and the community. This suggestion emerged from the participants' concerns of riding alone at night, through and from school, futbol games, neighbouring communities, and within their own neighbourhood. Importantly, during the photovoice interviews, participants expressed that riding or travelling in groups made them feel safer and better connected. Offering group rides may help participants and communities to travel safer around the neighborhoods, while also providing a safe and supportive space for the participants. However, group rides are only a small part of the solution against gender-based violence in the community. To this point, it is important to note that such a solution places the responsibility for violence prevention on women. Broader structures must also be taken into consideration. Thus, if BFD organizations decide to create any group ride programs, these programs should consider the following: (1) connect with community leaders to see if there are opportunities for local leaders or other community organizations to guide/lead group rides (see Recommendation 2), and – importantly – (2) further consult with BFD participants on how these groups rides should be structured (i.e., what are each of the communities' specific needs if group rides are implemented).

4. Acknowledging the existing structural inequalities

Organizations focusing on sport, gender, and development (SGD) programming, do not have intentions on placing sole responsibilities of the environment and prevention of violence on women nor on the bicycle. In fact, organizations like the one involved with Nicaragua fieldwork aim to improve the livelihood of women and girls in Ometepe. As for the bicycle, it serves the community

as a useful mode of transportation and as a safe space for women and girls to practice their agency and resist Machimso culture. However, it is important to continue to acknowledge that there are still inequalities and risks of violence that exists outside and within cycling spaces. This is reflected in the participants' observations and experiences, which exposes the inequalities that exist when accessing resources, like the bicycle and water (i.e., economic barriers and infrastructure), and the risks of experiencing violence when riding bicycles in Ometepe. Furthermore, we suggest BFD organizations to continue in engaging in broader discussions with Ometepe's municipal governments or within their own communities about the following: (1) How do inequalities continue to seep through day-to-day life and what actions can be taken?; (2) Consider the repercussions when environmental responsibilities and gender based violence prevention are solely placed on women; and (3) How can BFD organizations continue to educate and keep stakeholders (i.e., municipal governments) accountable in challenging violence against women and environmental issues in the community? Thus, we hope that the on-the-ground applications and advocacy work recommendations in this report will provide potential ways that can address these discussions above while challenging inequalities within Ometepe.

INDIA

1. Conducting this type of research with those currently involved in BFD programs in India

For this research, we were able to work with young women who had received bicycles from the partner organization and whom were now off at various colleges. Because of this, most of the young women were travelling much further distances for their schooling, necessitating their travel by bus or requiring them to live in residential hostels closer to school. This meant that most of the young women were no longer using their bicycles on a day-to-day basis. Conducting this photovoice project with these young women was a valuable and insightful exercise as it invited the participants to reflect on their journeys, how the bicycle impacted their lives, and what might have happened if they did not receive a bicycle to continue their high school education. For most participants, they felt that without having a bicycle they would have been unable to go to college or complete their education. At the same time, because most of these participants were no longer using their bicycles, we were unable to get a sense of the daily lives of those who are still using their bicycles to attend high schools. Conducting this research project with those in high school would provide important and possibly different insights into the role and meaning of the bicycle, the benefits and challenges participants face, and the ways in which the bicycle might be used to promote broader sustainable community development. It might also shed light on how perspectives on the benefits, uses, and limitations of the bicycles may have shifted over time in these community settings. Therefore, we hope to conduct future research with partner organizations and participants currently involved in BFD programming.

SOUTH AFRICA

1. Enhancing bicycle infrastructure

Overall, the cyclists in were largely pessimistic in terms of what could be done to improve the situation for cyclists in Bloemfontein. They felt that the safety of cyclists and the infrastructure

for commuting was not a concern for the municipality. That said, the cyclists did make suggestions. A number of cyclists indicated that designated lines and lanes for cyclists would be a massive improvement.

Other cyclists also discussed the need for improved education for both cyclists and motorists, so that people had a greater understanding of road rules.

Quote from participants:

“There must be a line, whereby cyclists can come to their destination safely. when I come, there is no sign that tells me this is a bicycle route because we know in most cases it's N1's [national highways] that they don't consider bicycles, it's streets like these that they mostly don't consider bicycles, then we don't know because there is no sign, so you mostly ride because you have to go to work. There is no thin line that can say this is our road, stick to yours and I will stick to mine, so if we could possibly have those, those lines and again most cases, we need to be visible. We need to be visible. In those terms, I don't know how to come up with it” (Pete)

References

- Braun, V, Clarke, V., and Weate, P. 2016. Using thematic analysis in sport and exercise research. *In: B. Smith and A. Sparkes, eds. Routledge handbook of qualitative research in sport and exercise.* London: Taylor & Francis, 213-227.
- Castleden, H., & Garvin, T. (2008). Modifying Photovoice for community-based participatory Indigenous research. *Social Science & Medicine*, 66(6), 1393-1405.
- Milford, C., Kriel, Y., Njau, I., Nkole, T., Gichangi, P., Cordero, P., . . . Steyn, P. S. (2017). Teamwork in qualitative research: Descriptions of a multicountry team approach. *International Journal of Qualitative Methods*, 16(1): 1-10.
- Wang, C. C. (2006). Youth participation in photovoice as a strategy for community change. *Journal of Community Practice*, 14(1-2), 147-161.