

# ANNUAL REPORT

2019



[www.techxlab.org](http://www.techxlab.org)

One Broadway  
Cambridge, MA

**TEL is a 501(c)(3) nonprofit organization dedicated to bringing communities out of poverty by driving the adoption of innovative, cost-effective and sustainable solutions that improve the lives of the least economically advantaged members of society around the world.**



## A WORD FROM OUR CEO

Karen Von Bismarck



2019 saw TEL's mission to change lives from the ground up expanded and affirmed. By providing complete and actionable information to underdeveloped communities wishing to implement innovative technologies, we reached and enabled over 61,938 users in 163 countries. We continue to partner with, for example, MIT, D-Lab, Siemens Stiftung, and the United Nations to innovate and showcase the growing body of life-changing solutions where they are needed most. The growing number of innovators, organizations, and last-mile communities turning daily to TEL testifies to our impact in shaping programs that address basic human needs.

Beyond this core work, we continue to partner with community-based organizations to accelerate projects on the ground. This past year, we completed hand-over of a water pump in the Philippines, launched a pilot program to train women entrepreneurs in India, and identified most appropriate solar technology in Haiti. In Uganda we continue to empower and educate young girls to manage their menstrual health and overcome stigma, a project highlighted in our successful Giving Tuesday campaign.

There is still much to be done. Logistical barriers and scarce financial resources hinder access to reliable knowledge and life-changing solutions. With continued support for our mission, we plan to do even more to help communities world-wide, by closing the gap between solution seekers and solution providers. In 2020 we look forward to continued and new TEL-partnered initiatives aimed at reducing poverty and meeting basic human needs in the developing world.

Karen

Co-Founder and CEO, Technology Exchange Lab

A handwritten signature in black ink that reads "Karen Von Bismarck (Kai)". The signature is fluid and cursive.

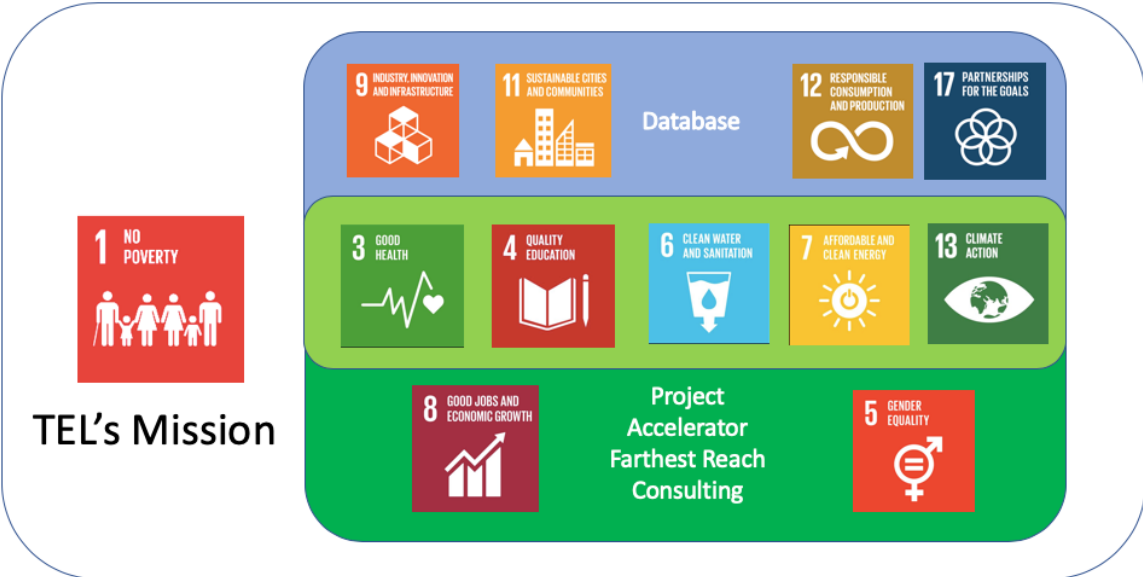
# TEL AND THE SUSTAINABLE DEVELOPMENT GOALS



The Sustainable Development Goals are 17 interconnected goals put forward by the UN as a global challenge to be achieved by 2030. They outline a shared vision to end poverty, rescue the planet and build a peaceful world. With only 10 years remaining to reach these targets, the Secretary-General has declared this the Decade of Action and urged all sectors of society to unite behind the SDGs to ensure a cohesive plan moving forward. Through our mission and activities, TEL is working closely to achieve these goals with a constant eye to 2030 and beyond. Here are a few highlights of how TEL is working daily towards the SDGs.

At the core of TEL's mission is the reduction of poverty on a community level, therefore **SDG 1: End Poverty**, is most directly addressed by our activities. As our mission states, we believe and have seen that the adoption of high-impact innovations can alleviate poverty and its malignant effects. This insight is fundamental to all of our activities and programs.

Beyond SDG 1, our core activities are solely possible by connecting with valuable partners around the world, both as solution providers and project clients, therefore we are inherently working towards **SDG 17: Partnerships for the goals** in everything we do. Furthermore, TEL is working closely with an array of players to achieve other goals set out in the UN framework. The TEL Database, at the heart of our activities, lists numerous solutions and organizations that strive to meet the more specific challenges of **SDG 3: Good Health**; **SDG 4: Quality Education**; **SDG 6 Clear Water and Sanitation**; **SDG 7: Affordable and Clean Energy**; and **SDG 13: Climate Action**.



The solutions listed are both high and low tech and can come from anyone around the world, providing a level playing field where innovation can thrive. This commitment to showcasing technology innovation from any source is a key step in our work towards **SDG 9: Industry, Innovation, and Infrastructure** as we believe innovation is not only possible in low resource settings but is a daily necessity for many people. In order for a solution to be included in the TEL Database, it must meet certain criteria, including a commitment to sustainability and a fundamental positive outcome for the end-user and their community. These conditions closely align with **SDG 11: Sustainable Cities and Communities** and **SDG 12: Responsible Construction and Production**.

The above SDGs and others are targets of a number of our on-the-ground projects through the Project Accelerator and Farthest Reach consulting programs. For example, our project with ESSMART in India that provides support to female entrepreneurs/retailers through targeted and practical business training for selling sustainable energy products is directly linked to **SDG 5: Gender Equality** and **SDG 8: Good Jobs and Economic Growth**, while also achieving **SDG 7** through the choice of solar lanterns as a product to distribute. This highlights how fundamentally interconnected the SDGs truly are and how one project can encompass multiple goals through careful forethought and planning.

The unifying ideology set forth by the initial goals and reiterated by the Secretary-General in recent months is central to the founding principles of TEL. By providing a platform and services that bridge the gap between solution seekers and solution providers, TEL is fundamentally linking players and ideas to alleviate poverty together. We welcome this fresh call to join forces for an ambitious decade ahead and are always searching for innovative partnership opportunities as we work towards 2030.



# THE CHALLENGE

From farmers in mountain regions of the Philippines with no way to get water to their crops, to teenage girls in rural Uganda who miss school due to the lack of sanitary solutions, to inner-city dwellers confronted with water safety issues, people face a multitude of daily challenges directly related to living in poverty.

New solutions with the potential to dramatically improve lives are emerging daily, such as water testing kits, gravity-powered water pumps, practical low-cost neonatal support systems, and make-it-yourself reusable sanitary pads. However, finding reliable and actionable information about these innovations poses a major challenge. Even with a stable internet connection, which is not always possible, extensive web searches often lead to a handful of commercial products well beyond the user's resources and ability to implement. At the same time, small-scale innovators are struggling to be noticed and get their newly developed technologies into the hands of people who need them most





# OUR SOLUTION

## TEL Programs

### Crowdsourced Database

TEL hosts and curates a free access, constantly growing and crowdsourced database of currently over 650 innovations in order to connect practical solutions to the people who need them most. TEL's custom database offers detailed, curated and unbiased information on over 600 solutions in six key areas (Water & Sanitation; Agriculture; Energy; Education & IT; Housing & Transport; Health & Medical Care). Our database provides a low-bandwidth platform that lets anyone easily discover and compare available solutions with no commercial or sales language: a level-playing field for solution providers from all walks of life. It is free to use and also available as a mobile app to download for use in off-grid settings. Over 5000 visitors a month and 140 requests for information a week bear witness to the strong need for this service.



### Project Accelerator

Through our Project Accelerator program, we help NGOs and communities to identify and implement technology-based solutions focused on last-mile development. We support clients and entrepreneurs looking to introduce innovative products and technologies in developing regions by creating grass-roots partnerships, helping to structure programs, and facilitating action.

### Farthest Reach Consulting

Through Farthest Reach Consulting we advise aid agencies, corporate social responsibility groups, and the public sector. We help clients identify, compare, evaluate and implement multiple, often interactive technologies to improve the lives of students, farmers, individuals, and families in less developed communities around the world.



# YEAR IN REVIEW

## Project Accelerator & Farthest Reach Consulting

In 2019 we maintained and refined our strategy of working with communities and community-based organizations to implement and evaluate data-driven solutions focused on last-mile development. The following gives a brief update on our major Project Accelerator and Farthest Reach Consulting projects from 2019 and our plans moving forward.



### Her Health, Her Future Uganda

Her Health, Her Future is a project in Uganda developed in partnership with Real Action for Community Empowerment (RACE), focused on reducing period stigma and hygiene challenges, and educating both girls and boys in reproductive science, with a main goal being to increase school retention rates among girls. In 2019, we were able to continue with weekly education clubs, expand the reusable sanitary pad making venture, and equip the schools with new ventilated pit latrines. The next steps in this project are to complete the program evaluation and expand the project to a third school in the area, while also fundraising to equip the schools with solar functionality. To learn more about Her Health, Her Future please visit <https://www.techxlab.org/projects/her-health-her-future/>

### Water for Highlands Handover Philippines

The Water for Highlands project reached an important milestone in 2019 with the official handover of the RAM pump maintenance to the local community. This is the culmination of work beginning in 2017 when we were approached by Stephen Yao, a US-based philanthropist with ties to Barangay Tuburan, about exploring solutions for increasing water access in the highland communities surrounding Janiway in Iloilo, Philippines.



Together, we conducted qualitative assessments of farm and household water needs, and gathered quantitative data on the local hydrological context. Based on these results, and the presence of a perennial river in the vicinity, we identified the Hydraulic Ram Pump as an appropriate and viable solution. TEL solution provider, Alternative Indigenous Development Foundation (AIDFI), then completed a technical feasibility study to set up a comprehensive water delivery system and local training program.

With generous support from the Coca Cola Foundation of the Philippines, TEL, AIDFI and a newly formed local water committee have implemented a village water system to provide up to 25,000 liters of water per day to Brangay Tuburan. Principally used for irrigation, the increased access to water provides opportunities for farmer households to grow cash crops and create value-added agricultural products, thereby increasing household income while also improving nutrition through increased locally sourced produce.

The hand-over of responsibilities to the local water committee highlights the progress the community has made over the last two years. As AIDFI is a Philippines based solution provider, they are committed to the region and are passionate about the impact their installations can have. Hand-overs are only possible when local actors demonstrate a clear understanding of the technology and show dedication to the long term maintenance of the pumps.



## Energy for L'ENDPs

### Haiti

Energy for L'ENDPs is a partnership with Fondasyon Ludmilla Rousseao Pour Haiti (FLURHA) and Our Lady of Perpetual Help School (L'ENDPS) aiming at connecting the school to a solar infrastructure. Prior to 2019, TEL completed a needs assessment and technology evaluation for off-grid energy solutions at the school. This process highlighted the need for a sustainable energy system to run basic appliances at the school including lights, fans, and computers. The evaluation resulted in the recommendation of a non-profit solar system implementer based in the Dominican Republic with active community projects in Haiti.



The next steps for this project include fundraising to implement the technology which we have been actively pursuing in 2019. The needs assessment also identified aspirational goals for the school. These include acquiring education resources such as digital devices for the students that connect to a central system, facilitating better learning outcomes through the use of synced data with an education platform tailor-made for the students. TEL has identified a number of partners through which this would be possible and is currently engaged in those discussions.



### ESSMART Pilot

#### India

Light Up Karnataka was the first proof of concept project of the Project Accelerator program. Since its inception in 2015, it has grown in scope and transitioned to include new partners and incorporate their skills and networks. Initially, the project goal was to increase the distribution of solar lantern products in rural Karnataka through the use of a female-focused distribution network. This is still central to the actions of this project but the approach has evolved into a new model based on challenges and findings from the field. Our current partner, ESSMART, has an existing distribution network of shopkeepers for their array of products. Through this network, we are working alongside ESSMART to pilot training schemes that empower the female shopkeepers to sell solar lanterns while also being culturally appropriate in their communities. In phase 1, with centralized training sessions offered, the majority of attendees were men. This is believed to be due to cultural norms, where the men are tasked with “business” related activities and the women with “domestic” activities, despite being co-owners of their businesses. In the design of phase 2, we are piloting an approach that brings shorter and more practical training sessions directly to the places of business, i.e. retail shops. The topics include marketing, product demos, and basic book-keeping.



As well as participating in the design of the program, TEL is currently the lead on monitoring and evaluation. The pilot program began in 2019 and continues through 2020 with a detailed program evaluation. The next steps are aimed at scaling this project to more partners in the ESSMART network.

# YEAR IN REVIEW

## TEL Database

Over the last 6 months, we have focused on a full update and testing of the solutions listed in the TEL database. Interns and volunteers dived in to ensure that all solution pages continue to provide up-to-date information. Through this project, we restructured the solution review process and included various automation tools, such as Zapier and Hubspot, into our workflow. These new processes and tools have streamlined the solution review process considerably and have enabled better tracking of progress metrics, such as response times for inquiries, rate of solutions added, and times since last solution updates.

2020 marks the 10th year of TEL's active participation in the global development innovation sector. While our programs have expanded beyond our original offering of the TEL database, it remains a vital resource for the community and is at the core of our activities and central to our mission. We launch the new decade with the express objective of expanding the reach and functionality of the database. This will guarantee it continues to meet the evolving needs of our target demographics and beyond. Identified actions include technical enhancements behind the scenes, category expansion (e.g., mid-size, multi-user solutions) comprehensive market research to discover the specific requirements of our end-users, and aiding organizations with specific needs by tailoring new features to the database.





## EVALUATION METRICS

### 2019 IN NUMBERS

Solutions updated in 2019

556

Website traffic increased by

23%

Facebook followers

9,295

Top ten countries reached  
(% change vs 2018)

United States ↑23%  
Philippines ↑59%  
India ↓32%  
Kenya ↑52%  
United Kingdom ↑14%  
Nigeria ↑48%  
South Africa ↑71%  
Pakistan ↑140%  
Canada ↑10%

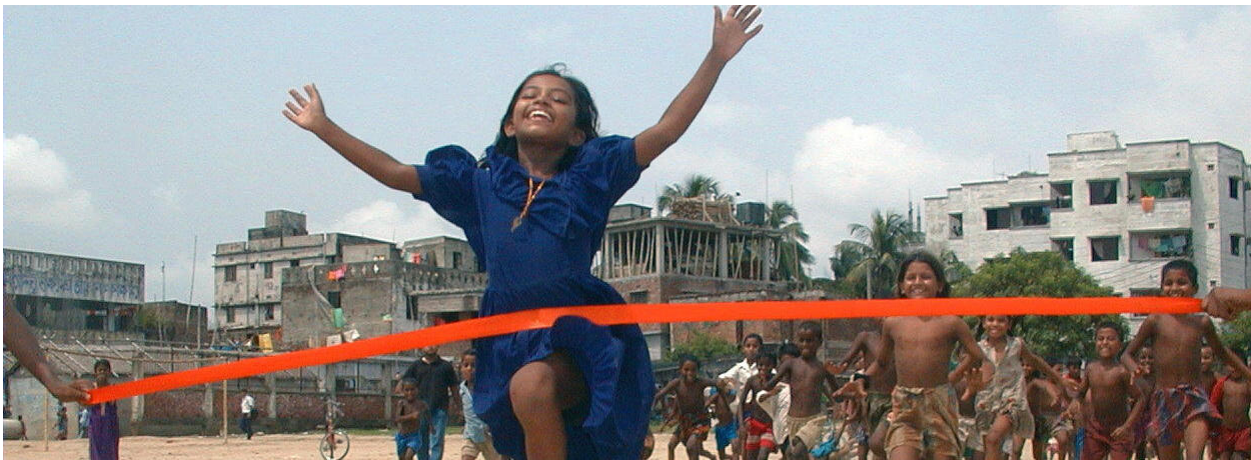
As our organization continues to grow and include new members, it is vital that robust and clear operational systems be in place. With a new Program Director joining the team in late 2018, we took the opportunity in 2019 to revisit our internal and external evaluation metrics. This was in conjunction with the Database review mentioned previously. Actionable evaluation metrics are a valuable tool when determining how to better serve our clients and remain as transparent as possible. Regularly updated data facilitate self-reflection and provide insight into our degree of impact. Conversely, tracking information for the sole purpose of reporting would be a waste of scarce resources.

In addition to the metrics recorded systematically within our programs, the actions we are now tracking at an organizational level falls into the following categories: Marketing/Social Media, Finance, Operations, Project Operations, or Database. Examples include social media engagement, i.e. new Facebook likes; number of grants identified and applications submitted; website visitors per month; monthly all team meetings; new solutions in the database.

# EVALUATION METRICS

Overall we have reached a majority of the targets set out in our 2019 plan. Regular internal team meetings have meant faster exchange of information between team members while also affording perspective on active and previous projects. A strong grant application framework has guided the active search for funding opportunities for both operations and for projects, with 7 large grant applications submitted this year. More details on the financial activities in 2019 can be found below.

From a marketing perspective we had a mixed year. We ran a successful Giving Tuesday campaign (details below) through Facebook and email drives. However, we have fallen slightly short of our proposed target of 10,000 Facebook 'Likes', relying on bi-weekly posting and investment in Facebook ads. 2020 will see a comprehensive review of our marketing and social media strategy. Again on the positive side, our online footprint has significantly increased over the last 12 months, with a 23% increase in web traffic and at least one database supplier inquiry per week. Most interestingly, our geographical reach has diversified as well with an increase in users from countries such as Kenya, Philippines and Pakistan. These increases are a direct result of additional activity in our Google Ads account with tailored ads and target demographics.





# FINANCIAL OVERVIEW

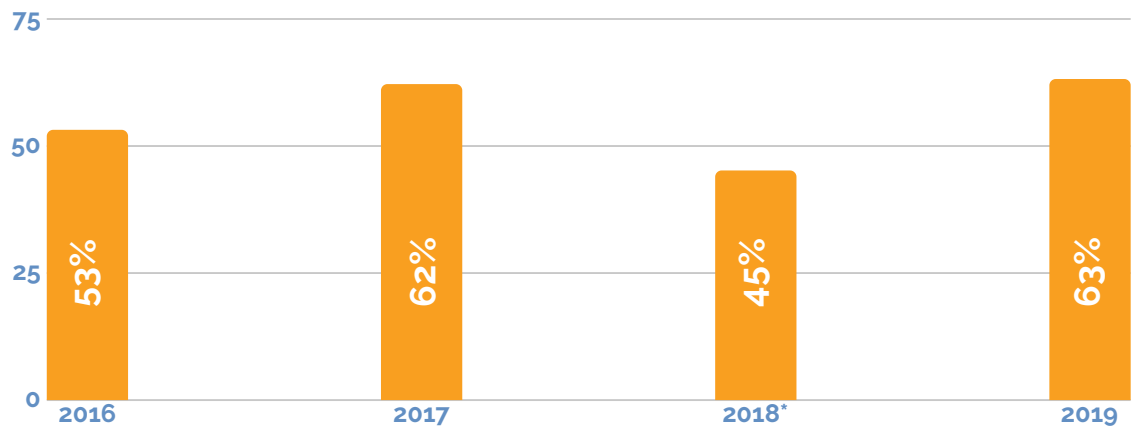
## Program to Overhead Ratio



In 2019, 63% of the TEL budget went to direct program costs with the remaining primarily going towards fundraising and administration costs; On trend, this ratio continues to improve year-on-year since the launch of the Project Accelerator in 2016, see graph below. This positive change reflects in part increased project scope, requiring more management resources, and also the streamlining of operating and fundraising activities through the use of systems like GitHub, HubSpot, Zapier, and Instrumentl.

We expect to reach or exceed the Better Business Bureau recommendation for a nonprofit of 65% in 2020. This will be achieved by allocating more of our existing resources towards the Database Enhancement project and through increased activity in Project Accelerator projects.

TEL has received the GuideStar Gold Seal of Transparency for the last 3 years. We reconfirm our commitment to transparency and we endeavor to maintain the same standard in 2020.



\*2018 saw a drop in the percentage spent on Program costs as major Project Accelerator activities were on hold during our 5-month search for a new Program Director. Total expenses for 2018 were \$30,000 below the 3-year average.

### Grant Success

Coming into 2019, TEL was in a strong place from the grant perspective. Heavy investment in 2018 into fundraising strategy and project-focused grant prospecting paid off significantly with large grants from two major foundations for the Her Health, Her Future project. This initial round of financing provided the much-needed funds to kick-start this project and support our local partners, RACE, into 2019 as the project grew from strength to strength. In addition, a third foundation provided funding for phase 2 in 2019 allowing us to complete the ventilated pit latrines at the schools and provide training and technology for data gathering in the field. In the last year 11% of our income was from project restricted grants, in 2020 we hope to grow this as we ramp up our fundraising activities.



### Future Fundraising Plans

Building on the success of the Her Health, Her Future project we are looking to scale this multi-solution program to additional schools in the Jinja district of Uganda. The desperately needed project in Haiti is currently ready to be implemented but is awaiting funding. With these two key goals in mind, a full-scale grant prospective plan is in place to raise funds in 2020 for each of these projects.

With the much-in-demand database enhancement plan moving forward, the need to fundraise directly for this program is a high priority for 2020 and beyond. We are in search of large scale, forward-looking funders and are in discussions with potential partners on this front. On-the-ground partners are also vital to this project as they can expand access to end-users and new target audiences. We are engaged in joint fundraising with new and existing partners to exploit our complementary networks.

## FIANCIAL OVERVIEW

### Fundraising

### Giving Tuesday

In recent years Giving Tuesday (the Tuesday after Thanksgiving in the United States) has become an internationally recognized time for soliciting donations for nonprofit activities. In order to benefit both from a fundraising and marketing perspective, we embarked on our first Giving Tuesday campaign in 2019. Through both email and social media attention we raised 80% of our single-project focused fundraising goal. 100% of the funds raised were allocated directly to Her Health, Her Future program activities in the field. This was our first Giving Tuesday campaign and we look forward to implementing lessons learned in our 2020 campaign.

# LOOKING TO THE FUTURE

Looking forward to 2020 we will continue and improve our strategy of working with our network of communities, implementing partners, solution providers, and funders in order to reduce poverty through the spread of innovative and appropriate technology and program design.

In 2019 we strengthened our organization through new systems and technologies to ensure we can offer the best service possible with limited overhead. We continue to operate on a fraction of the budget of most non-profits in this domain thanks to the dedication and hard work of our team, our interns, volunteers, and generous supporters.

We are poised to grow and expand our database through technical upgrades and solution drives, scale our current Project Accelerator activities based on program evaluations and funding drives, and to continue our Farthest Reach Consulting, taking evidence based programming to those who need it most.

Growth requires investment and creativity in reaching new audiences. To do so we are tapping into our Google Adwords account and are expanding how we use social media to actively engage and grow our audiences.

Of course, none of this would be possible without our valued partners. Our shared success pushes us all closer to ending poverty around the globe.

## Our Partners

