



**Amplifying Impact:**  
How Accelerating Social Entrepreneurship  
Boosts Climate Resilience

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# Executive Summary



Social entrepreneurship has a proven track record of helping to increase climate resilience among those already living in poverty. There's also compelling evidence that social entrepreneurship can help prevent more people being pushed into poverty by climate-fueled events such as droughts, floods, and increasingly frequent and strong storms.

Still, when looking at individual social enterprises, it can be difficult to predict which ones will be successful in the long term, especially as they scale. We propose that business acceleration programs are particularly effective at both identifying which social enterprises are most likely to have an impact, and helping promising social enterprises to optimize their impact and business performance potential.

By using the right metrics to choose social enterprises for their programs, and by providing social entrepreneurs with important skills, knowledge, support, and connections during the course of those programs, accelerators can help multiply the impact of the most high-potential social enterprises.

Accelerated social enterprises also offer benefits to two other groups, as well:

- For impact investors, these identified-as-successful enterprises represent more promising investment targets.
- For corporations seeking to meet environmental, social, and governance (ESG) or corporate social responsibility (CSR) goals, funding cohorts of social enterprises through accelerators enables them to take a portfolio approach that is more likely to result in greater overall impact over time.

As a result, we believe that accelerating social enterprises represents an effective, highly leveraged approach for achieving social impact, including boosting climate resilience.

In proposing this perspective, we are relying on our experience as an accelerator of more than 1,300 social enterprises globally; data generated by a 2021 Climate Resilience Asia Pacific Accelerator program Miller Center for Social Entrepreneurship conducted in partnership with Chevron; data from a representative cohort of other alumni of Miller Center accelerator programs; and findings from business acceleration programs conducted by other organizations.

Through analysis of data and selected examples of social enterprises operating in the areas of clean energy, safe water, and climate-smart agriculture, we have found the following:

- Accelerators are effective in identifying—and selectively accepting into their programs—social enterprises with the highest potential for scale and for increasing their growth rate.
- In addition to accelerated social enterprises having a better chance of achieving positive impact and financial results, social entrepreneurs who complete high-quality accelerator programs are more likely than their unaccelerated peers to enjoy a strong support system, be confident in their ability to raise funding, and exhibit confidence in their leadership and entrepreneurial skills.
- For corporations interested in funding social entrepreneurship as part of their ESG or CSR initiatives, accelerators offer an extremely efficient and effective use of their resources compared to focusing on individual social enterprises.
- Similarly, for impact investors, focusing on accelerated social enterprises is likely to generate greater returns on investment as well as greater impact than choosing investment targets from among the total range of social enterprises.

*How effective is social entrepreneurship acceleration? Miller Center estimates that for every dollar<sup>1</sup> spent on accelerating a social enterprise, 5.6 additional lives are improved—and that each dollar spent to fund an acceleration program helps to unlock about \$280 of outside investment into a social enterprise.*

In this paper, we demonstrate that social entrepreneurship offers proven promise to help lift people out of poverty, enhance climate resilience, potentially reward investors interested in melding their impact and financial goals, and provide corporations with effective and cost-effective pathways for their philanthropic funding.



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## Introduction

People living in poverty are disproportionately at risk due to the effects of climate change by climate-fueled events such as droughts, floods, and increasingly frequent and strong storms. In the next 10 years, climate change will push an additional 132 million people into poverty if left unchecked, according to a recent [World Bank report](#).

One avenue that consciously addresses the intersection between poverty and climate change is social entrepreneurship, notably through social enterprises that provide their customers and communities with clean energy, safe water, and climate-smart agriculture solutions.

Based on our first-hand experience of accelerating more than 1,300 social enterprises globally and research of the broader social enterprise sector, we at Santa Clara University's Miller Center for Social Entrepreneurship believe that encouraging the success of social enterprises is one way to help those living in poverty to become more resilient to the effects of climate change. Further, we propose that business acceleration programs play a critical and cost-effective role in surfacing and scaling high-potential social enterprises, and in helping them to access the investment opportunities that can propel them toward success.

In this white paper, we'll explore the role that business acceleration programs can play in catalyzing social enterprises' growth and impact. We use data generated by a [Climate Resilience Asia Pacific Accelerator](#) program conducted in 2021 in partnership with Chevron, as well as data from a representative cohort of other Miller Center alumni. We also cite findings from other business acceleration programs.

Based on this data, we propose that acceleration is a highly leveraged method for creating social impact. We suggest that potential investors use our conclusions to help determine the characteristics of accelerated social enterprises most likely to result in successful outcomes.

Finally, we encourage potential corporate partners to invest in social enterprise accelerators. Every dollar that a philanthropic partner gives to an accelerator creates a significant return on that investment, because accelerated social enterprises tend to generate good revenues, attract additional funding from direct investors, and deliver significant impact.



## Assessing the Impact of Social Entrepreneurship on Climate Resilience

Let's start by clarifying a couple of important terms: social entrepreneurship and climate resilience.

Many definitions of social entrepreneurship exist, but they all boil down to some form of starting and building a business that has the primary purpose of delivering social value, rather than strictly financial value. Social enterprises harness the tools of entrepreneurship to deliver impact in the form of improved social and/or environmental goals.

As for climate resilience, an earlier Miller Center white paper in 2015, "[Creating Climate Resilience Through Social Entrepreneurship](#)," said:

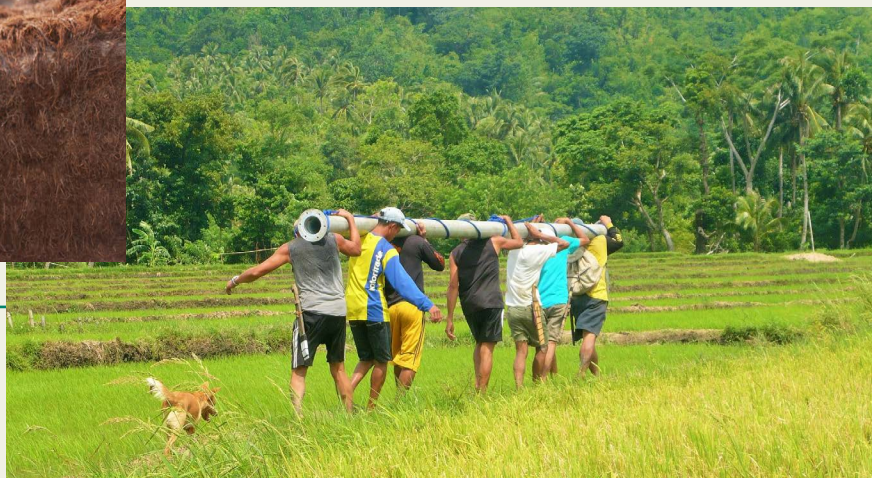
*“Climate resilience encompasses any activities that help vulnerable populations prepare more effectively for climate-related disasters and disruptions. Ideally, climate resilience translates into improved ability to adapt to and withstand the negative effects of climate change.”*



As Miller Center Executive Director Brigit Helms wrote in an [article in Impact Entrepreneur](#), social enterprises “contribute to climate resilience and poverty alleviation in at least three major areas: clean energy, clean water, and climate-smart agriculture.” Worldwide, 800 million people lack access to [electricity](#); 2.7 billion lack access to [clean cooking facilities](#); and about 800 million lack access to [basic drinking water](#).

For social enterprises, these stark numbers represent both a challenge and an opportunity to make a positive impact on people living in poverty and lacking access to basics such as clean water, power, and food. A 2016 [International Finance Corporation report](#) projected that there would be US \$23 trillion of climate investment opportunities in developing economies between 2016 and 2030. In addition, in fiscal year 2021, the [International Development Association](#) (IDA), the World Bank's multibillion-dollar fund for the poorest countries, dedicated half of its funds to climate adaptation and resilience, according to a [World Bank article](#).

A [study published in 2020 by the GIIN Research Team](#) on the result of impact investment in agriculture found that after one year, more than half of the farmers had received a third-party certification and implemented sustainable soil-protection practices across an average of 3,157 hectares of land. Additionally, agricultural yields increased for small-holder farmers, 62% of whom had an increase in their income and increased rural employment.



## Examples of Social Enterprises' Climate Resilience Success

Social enterprises address climate-related challenges by taking a people- and community-centric approach to solving problems in clean energy access, climate-smart agriculture, and access to water.

Miller Center has worked with 127 social enterprises focusing on the United Nations' [Sustainable Development Goals \(SDGs\)](#) SDG 7, Affordable and Clean Energy, by creating solutions such as solar lights, clean cookstoves, village-level mini-grids, and solar water pumps. Collectively, these enterprises have impacted the lives of more than 40 million by enabling people to work and study at night; cook their food without breathing noxious fumes; and avoid having to spend significant amounts of money and often hours of time purchasing and gathering sub-par fuels.<sup>2</sup>

The success of many social enterprises is due to the leadership of local leaders able to uniquely adapt their solutions to the local context in which they operate. For example, [Crop Innovation in West Africa \(CIWA\)](#) develops and disseminates seeds adapted for local agriculture. Through their people-centric approach, reflecting on the unique needs of the local communities they operate in and working closely with smallholder farmers and rural community members, they have been able to develop breeding product profiles for each crop. Each profile document is tailored to the community with special emphasis on the needs of women and vulnerable groups—knowing that climate change disproportionately impacts those with existing financial and social inequities.

Another example, [GerWeiss Motors](#), a participant in the Climate Resilience Asia Pacific Accelerator, has developed locally deployable electric vehicles used by tuk-tuk/tricycle drivers in the Philippines to reduce their operating costs and enhance their income.



## The Effect of Acceleration on Social Enterprises

Although social entrepreneurs have been addressing climate change and its effects for some time, measuring the impact of acceleration on social entrepreneurship in relation to climate resilience is still very new. Still, it's important to look at some of the ways that social entrepreneurship can be a tool to address climate change, as well as the role that acceleration plays in supporting social entrepreneurs and their work.

The concept of acceleration emerged in 2005 as a way to provide cohort-based, time-limited, and investment-focused support to tech entrepreneurs, as reported by GALI. The international development community and impact-focused organizations quickly began to adapt the model to a global pool of impact-focused organizations. Today more than 280 organizations worldwide run accelerator programs.

Broadly, accelerators provide the leaders of early-stage companies with various business tools and support to help them become stable, successful companies. As an example, since 2003, Miller Center's Silicon Valley-based, globally recognized [accelerator programs](#) have been helping leaders of social enterprises develop pathways to scale and prepare for next-level investment.

While many social enterprises are able to raise funding and grow on their own, acceleration has proved to be an effective way to support entrepreneurs and catalyze social impact. It is difficult, however, to assess the impact that acceleration alone has on any particular social enterprise. Acceleration is only one influence and happens in parallel with other work being done to grow the enterprise. Furthermore, accelerator programs accept and support the highest-potential entrepreneurs, making it difficult to draw direct comparisons between accelerated and non-accelerated enterprises. Nonetheless, some research has been done along these lines.

### A Focus on Last-Mile Distribution

Given the large numbers of potential customers for social enterprises' climate resiliency solutions, the challenge of reaching customers can be seen largely as a distribution problem, which is complicated because their demographics vary tremendously—requiring not only different marketing strategies, but also different business models and even different products.

[Prior research from Miller Center](#) has shown that for energy access, making energy available to an addressable market of 500 million potential customers, both households and small businesses, would require 7,000 to 20,000 local energy enterprises. In the intervening years since that research, last-mile distributors (LMDs), as they are called, have become an established sector in the social enterprise ecosystem.

According to [research from Global Distributors Collective](#), LMDs are addressing these challenges and achieving substantial impact, with each enterprise raising on average over \$5 million and reaching 42,000 new customers/year. This is exemplified by ONergy Solar, a graduate from Miller Center's Energy Access India Program and the 2021 Climate Resilience Asia Pacific Accelerator. ONergy sells a complete range of clean energy solutions to underserved households and institutions in East India, to date serving 12 Indian states with more than 20 renewable energy centers and impacting the lives of more than 500,000 people.



Since 2013, the Global Accelerator Learning Initiative ([GALI](#)) database has surveyed entrepreneurs at the time they applied to an accelerator program and each year thereafter. The annual follow-up surveys sent to all entrepreneurs measure the standardized performance of entrepreneurs whether or not they were accepted into the program to which they applied. The GALI results reveal that on average, [enterprises that participate in accelerators](#) have higher revenues, a greater number of employees, and raise outside investment in greater margins than those that applied but were rejected. Furthermore, GALI's analysis shows that even among the 25% of [enterprises with the greatest growth](#), accelerated enterprises are over-represented and exhibit faster performance than non-accelerated ventures.

## enterprises that participate in accelerators have



higher  
revenues



greater number  
of employees



more outside  
investments

Miller Center has also found that enterprises with higher revenues and paid staff benefit more from acceleration programs. In reviewing many thousands of enterprises over nearly two decades to select the 1,300 we have accelerated, we continue to refine our selection process to increase the chance for success of the enterprises we accept. Revenues above \$20,000 and having three or more paid employees are the two primary screening criteria that Miller Center has found to be critical indicators of success.

Fulfilling those criteria does not guarantee admittance (or a scalable business), but falling below them indicates that the enterprise is likely too early in their journey to reap the full benefit of Miller Center's accelerator programs, which are designed around scaling proven impact models. We have seen enterprises below our selection threshold derive more benefit from working with localized technical assistance programs that can help the enterprises to validate their model. Enterprises above the threshold, however, have enough traction and stability to develop a viable scaling model during an acceleration program.

Another way to calculate the outcome of acceleration is to calculate net cost effectiveness, which compares the per-enterprise cost of running a program to the outcomes accrued by accelerated enterprises. In 2018 GALI conducted a [net cost-effectiveness analysis](#) across participating programs and found that on average, \$1 in program costs was associated with a net increase in equity investment of \$1.14 in the year after application for accelerated ventures.

While GALI has controlled the data as much as possible between the admitted and non-admitted enterprises, Miller Center proposes a different approach to assess the impact of acceleration. As described in the next section of this paper, we recognize that accelerators do a generally good job of identifying social enterprises with the highest potential for scale and increasing their growth rate (this is literally what acceleration means). We believe that if the enterprise grows post-acceleration AND the entrepreneur attributes some of that growth to the accelerator, then value has been delivered.

# How Social Enterprise Acceleration Can Increase Climate Resilience

One example demonstrating how business acceleration programs and social entrepreneurship have catalyzed social impact is the Energy Access India Program that Miller Center ran between 2015 and 2018.

This program provided acceleration services and investment facilitation support to a portfolio of 30 social enterprises well positioned to create commercially viable, scalable access to energy. The project was funded by USAID and implemented by Miller Center and New Ventures India. During the three years of the program, the participating companies [provided clean energy access to more than 1.2 million individuals and mobilized over \\$31 million of investment](#). This impact translates, on average, to each enterprise serving 40,000 people and raising about \$1.03 million.



## Energizing Accelerators

“As a company of problem solvers, Chevron looks to the future of energy with optimism,” says Kurt Glaubitz, Chevron’s General Manager Corporate Affairs, Asia Pacific. The countries in the Asia Pacific region present many opportunities to enable human progress by providing reliable, affordable and ever cleaner energy.

Chevron understands that achieving change at scale requires partnership and collaboration throughout the energy system. Chevron funds accelerator programs like Miller Center to help reduce poverty, drive economic and social opportunity, and develop the entrepreneurial ecosystem.

“Through the two programs Chevron has funded with Miller Center, we have seen that investing in high-quality, proven accelerators is an effective way to increase the impact of our giving,” said Glaubitz. Miller Center selectively targets enterprises that are ready to scale their climate resilience solutions and leverages other forms of in-kind support, such as experienced mentors and university resources.”



## A Closer Look: Climate Resilience Asia Pacific Accelerator

In June 2021, Miller Center launched a Climate Resilience Asia Pacific Accelerator in partnership with Chevron, the second conducted by the two organizations. This program was designed to address the most significant barriers to investment for the Asia-Pacific region's highest-potential social entrepreneurs: those solving for reliable, affordable, low-carbon solutions that scale. The program received support from Miller Center's mentor network, local Asia Pacific leaders, and Chevron staff.

The members of the 2021 Climate Resilience Asia Pacific Accelerator cohort were selected for the program based on having a specific impact in Chevron's priority countries of India, Indonesia, the Philippines, and Vietnam<sup>3</sup>. As part of Miller Center's strategic focus on [Climate Resilience](#), participants in this cohort all had a sector focus on innovations in energy, water, or climate-smart agriculture, providing solutions for people living in poverty.

To support our assertion that acceleration of social enterprises represents a highly leveraged way to positively impact climate resilience, we present data from two sources: the cohort of the 2021 Climate Resilience Asia Pacific Accelerator and a comparison cohort comprising alumni of previous Miller Center accelerator programs. Because it will take time to assess the actual impact of the Climate Resilience Asia Pacific Accelerator cohort, we chose to create a comparable comparison cohort of previous Miller Center alumni to estimate potential future impact for the Climate Resilience Asia Pacific Accelerator cohort enterprises. Each participating enterprise completed an intake survey, which looked at the variables of baseline impact, revenue, staff size, and investment.

The first step in creating a comparable group was to choose alumni social enterprises whose sector and geography reflected that of

the Climate Resilience Asia Pacific Accelerator cohort. Then, because the social enterprise sector has changed dramatically over time, we narrowed the search to recent alumni.

The final comparison group consists of 18 social enterprises that graduated from Miller Center accelerator programs since 2018 and are working in Asia Pacific on themes around climate resilience. It is important to note that these 18 social enterprises did not all complete the same accelerator program, nor were they all from the same program cohort.

Finally, the comparison group was filtered based on the key variables of impact, revenue, staff size, and total investment of each social enterprise to get as close a comparison as possible with the Climate Resilience Asia Pacific Accelerator cohort.

Below is the definition of each variable:

1. **Impact:** A proxy variable—the total cumulative number of lives improved by the enterprise to date—used because impact is inherently difficult to measure.
2. **Revenue:** The sum of earned revenue and revenue from grants and donations for a given fiscal year.
3. **Expenses:** The cost of goods sold; sales, general, and administrative expenses; and any other operational costs—not including depreciation or taxes—for that fiscal year.
4. **Staff Size:** Number of full-time and part-time paid employees.
5. **Investment:** Total cumulative investment since the founding of the enterprise to date.

Descriptively, the Climate Resilience Asia Pacific Accelerator cohort and the alumni group were similar at the time of program initiation. This information can be used to make some limited interpretations for the Climate Resilience Asia Pacific Accelerator cohort's future performance for the key variables of impact, revenue, staff size, and total investment.

Table 1: Descriptive Statistics: 2021 Climate Resilience Asia Pacific Accelerator Cohort (11 SEs)

*\*For the full table details please refer to the appendix*

Variable	Mean	Standard Deviation
Baseline.Impact	44,959	85,923
Baseline.Revenue	\$187,261	\$165,503
Baseline.Staff.Size	21.55	19.05
Baseline.Investment	\$1,625,032	\$3,265,233

## Expected Outcomes Based on the Comparison Data

In an effort to go beyond anecdotal evidence, we propose that data generated since alumni complete a Miller Center program can provide some indication of expected outcomes from the Climate Resilience Asia Pacific Accelerator cohort. However, due to the small sample size of these groups and the selection bias into cohorts, as well as non-random selection of the alumni comparison group, we cannot draw any statistically significant conclusions from our data.

The first thing we checked in the comparison group was the correlation between baseline indicators—where they started at the beginning of an acceleration program—and the outcomes of those same indicators, reported as growth indicators. These outcome or growth indicators comprise the most recent data available for each enterprise. For enterprises graduating in 2018, this would be 3-year data; for those graduating in 2020, it is 1-year data.

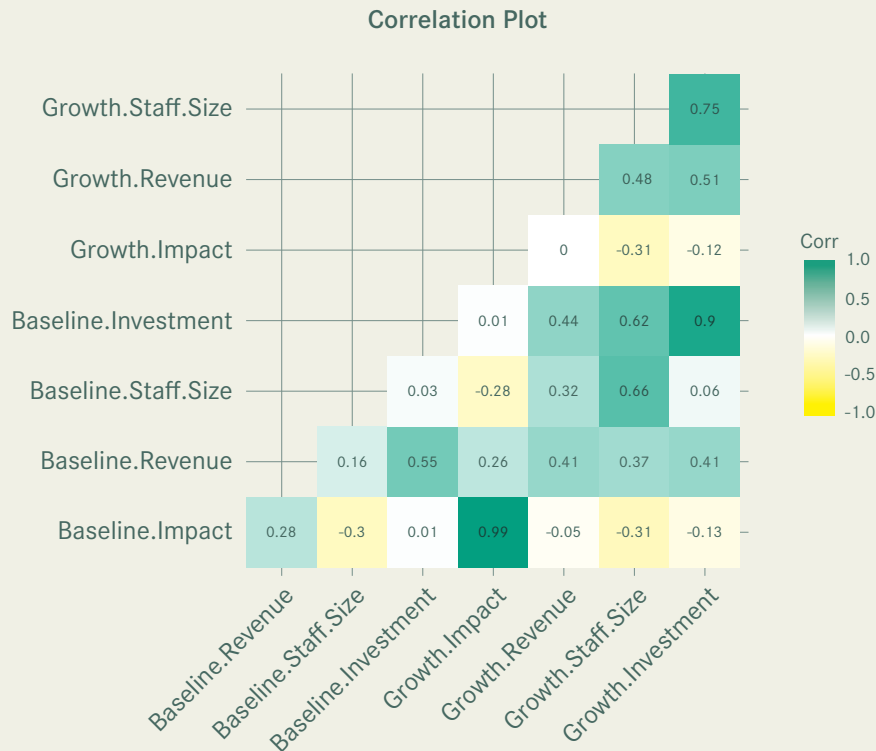
Not surprisingly, the strongest positive correlation among the alumni enterprises is between their baseline impact and their current (growth) impact, as well as their baseline investment and current investment raised. This is because both of these indicators are cumulative numbers and are always increasing, so baseline indicators strongly correlate with future outcomes of those same indicators.

Table 2: Descriptive Statistics: Comparison Cohort (18 SEs)

*\*For the full table details please refer to the appendix*


Variable	Mean	Standard Deviation
Baseline.Impact	32,516	77,349
Baseline.Revenue	\$203,480	\$131,170
Baseline.Staff.Size	12.06	8.38
Baseline.Investment	\$441,30	\$570,725

The following correlation plot shows the relationship between the variables of baseline (value at the start of an accelerator program) impact, revenue, staff size, and investment and growth (change in value from start of the accelerator to post recent data available) impact, revenue, staff size, and investment.



These correlations on the 18 enterprises in the comparison cohort suggest the following conclusions:

- The best of the best succeed in scaling: Enterprises that entered the accelerator program with higher revenues and investment tended to have higher growth levels in revenue and investment.** This result is seen in the high correlation levels (shown in green) between these two baseline indicators and the future growth indicators for revenue and investment. This data implies that an enterprise with higher revenues and investments signals to investors that they are a successful business and worth investing in, which increases the odds of further growth in the business' revenue. This is also in line with the results GALI has published that entrepreneurs with lower levels of investment and revenue aren't even accepted into accelerators.
- To maximize impact, start with impact:** Surprisingly, the baseline impact indicator is correlated only with the future impact indicator and not with any other variables. This observation is at odds with the desired growth models of social enterprises, where social impact grows proportionately as revenues grow. The disconnect between the two shown here provides an important caution to accelerators when selecting enterprises: **If the accelerator is seeking only to catalyze additional impact, it would be well served by focusing on organizations with the highest possible levels of baseline impact. On the other hand, if the accelerator is seeking to maximize both financial and impact growth of the enterprise, then the accelerator should focus on the enterprises' baseline revenue and investment.**



## Accelerators signal investment-worthy enterprises

Impact investors recognize that accelerators do the hard work of identifying promising social enterprises, as well as providing valuable training and support to growing enterprises.

Beneficial Returns is an impact investor that works closely with accelerator programs by sourcing its borrowers through existing networks such as Miller Center, Ashoka, and the Ashden Prize. Ted Levinson, Founder & CEO, notes that:

*We rely on these entities to find and train the most promising social enterprises—something we could never do with our small staff and limited resources.*

*We know that social enterprises that have been selected by these entities have been rigorously evaluated and, in most cases, supported with mentorship and training which makes them better-run businesses that should be more creditworthy.*

*It would be impossible for us to lend across two geographies (Latin America and Southeast Asia) with our small team if we didn't have accelerators and fellowships to lean on for sourcing and first-level vetting.*

## Results

We break down the results into two sections. The first looks at the business outcomes and growth of the enterprises in the alumni comparison group. These results can be used to infer the expected outcome and growth from the social enterprises that participated in the Climate Resilience Asia Pacific Accelerator three years from now. The second section focuses on the self-reported results from entrepreneurs in terms of confidence and program satisfaction.

### *Business Growth Results*

We measured the average growth for each indicator—impact, revenue, staff size, and investment—across all the enterprises in the comparison group as the difference between the baseline data and the 3-year mark (or 2-year mark for social enterprises with less than three years of data). The highest change was in investment, with a 210% increase over baseline. From the baseline indicators there was a 122% increase in impact, a 129% increase in revenue, and a 123% increase in staff size.

Using the comparison group as a reference, we can project the following numbers as reasonably probable for the Climate Resilience Asia Pacific Accelerator cohort three years following completion of the accelerator:

	Baseline	Potential Growth	Potential (Growth) Outcome
Impact	44,959 cumulative lives improved	122% increase	99,810 cumulative lives improved
Investment	\$1,625,032 cumulative investment raised	210% increase	\$5,037,600 cumulative investment raised
Revenue	\$187,261 in Revenue	129% increase	\$428,828 in Revenue
Staff Size	24 Staff size	123% increase	54 Staff size

Clearly, not all the social enterprise growth can be attributed directly to participation in an accelerator. Miller Center programs, similar to other accelerators, are typically six months long, and during that time enterprises are evolving based on many factors. With the small sample sizes available to us, there is no objective way to quantify the role of the accelerator in the growth. However, logically, if the enterprise grows and the entrepreneur believes that the accelerator contributed to that growth, then there is evidence that the accelerator did influence some of that growth.

### *Accelerator Participants' Self-Reported Outcomes*

While we can't yet provide evidence for the long-term growth of the enterprises in the Climate Resilience Asia Pacific Accelerator, we can provide some evidence on the impact of Miller Center's accelerator program on participating entrepreneurs' confidence. The Social Entrepreneur Confidence questions are an attempt to capture some immediate outcomes of the program related to the self-efficacy and confidence of entrepreneurs and how Miller Center's programs directly impact them. Questions are asked at the start and end of a program and are rated on a scale from strongly disagree (1) to strongly agree (5).

## Survey Responses from Climate Resilience Asia Pacific Accelerator Cohort:

Question	Baseline	Endline	% Change
I have a strong network of entrepreneurs where I can share challenges and obtain peer advice.	3.00	3.50	16.67%
I am confident in my ability to lead my enterprise.	4.30	4.67	8.53%
I am satisfied with the work of my social enterprise.	4.00	4.67	6.67%
I am confident in my entrepreneurial skills.	4.00	4.33	8.33%
I am confident in my ability to go out and raise funding.	3.40	4.33	27.45%
I have all the support necessary to succeed in my business.	2.80	4.17	48.81%

From this sample of 11 enterprises, we can infer the following:

1. The most noticeable difference as a result of the program was the perception amongst entrepreneurs of having a strong support system. This can be explained by the guided mentorship, cohort webinars, panel sessions, and staff support that Miller Center programs offer to entrepreneurs. These relationships are formed during the six months of the program and continue beyond the program, formally through Miller Center's Active Alumni Network and informally among the participants.
2. Similarly, entrepreneurs reported increased confidence in their ability to go out and raise funding, satisfaction with the work of their social enterprise, and satisfaction in a strong peer network. As part of the accelerator program, entrepreneurs go through three mock investment sessions that boost entrepreneurs' confidence in presenting their business.
3. The smallest changes, but still showing a positive increase, were entrepreneurs' confidence in their ability to lead their social enterprise and confidence in entrepreneurial skills. This is most likely explained by the entrepreneurs' high baseline scores, as well as Miller Center's selection process for its accelerator programs.

We can reasonably assume that these increases in confidence as a result of the program provide some indication of the sustainability and growth potential of the enterprise. Furthermore, several entrepreneurs participating in the program wrote that their most valuable takeaway, learning, and/or resource from the program was the mentorship and support they received.

As an example, Danny Wright from Gravity Water said: "This accelerator provided me with two highly skilled mentors who invested in me and my social enterprise's growth and success. Through weekly meetings, we were able to work together to assess Gravity Water's greatest opportunities to scale, and to develop a roadmap for how to get there. This support came at the perfect time for our organization, and we're now prepared and confident to scale our work bringing safe drinking water to thousands of schools throughout the Asia Pacific region."

Miller Center uses Net Promoter Score (NPS) as a proxy for measuring entrepreneurs' satisfaction with the program. NPS asks the likelihood of recommending something to a friend and buckets responders into promoters, neutral, and detractors, leading to a score that ranges from -100 to +100. Given [the way the NPS formula works](#), any score above +30 is considered good, and a score above +70 means that "your customers love you and your company is generating a lot of positive word-of-mouth from their referrals."



An entrepreneur's most valuable resource is their limited time, so by recommending a program to others, they are signaling significant perceived value. Across all previously surveyed Miller Center alumni enterprises, Miller Center's average NPS score is 83.

Anecdotally, entrepreneurs participating in the Climate Resilience Asia Pacific Accelerator have also reported that as a result of participating in Miller Center's program, they will be able to scale their business model sustainably. Sukhmeet Singh, the CEO of [A2P Energy](#), said: "Some of the learnings from the program we have already implemented, and we plan to grow at least 2x in this year with our new initiatives, which were

given shape during the program. Our collection and processing of farm waste through our platform has helped to produce 1,700 tons of green fuel, which is replacing fossil fuel and also having a huge environmental and social impact. This collection and processing has helped to save 2,482 tons of CO<sub>2</sub> and avoided 5 tons of particulate matter getting released into the atmosphere by preventing open field burning. By the end of 2022 the usage is estimated at 180,000 tons of green fuel through the platform, which can save 262,800 tons of CO<sub>2</sub> and 540 tons of particulate matter getting released into the atmosphere."



## ONergy Solar Case Study

[ONergy Solar](#), a social enterprise established in 2009, has become a leader in India providing complete solar solutions and services. They have graduated from four different Miller Center programs<sup>4</sup>, including the Climate Resilience Asia Pacific Accelerator. By the completion of their first Miller Center Accelerator in 2011 they had impacted 25,000 lives and had received \$100,000 in investment and had a total revenue of \$140,000. By the end of the Climate Resilience Asia Pacific Accelerator, they increased the number of lives improved to 758,900 people and received \$3,200,000 in investment and had total revenue of \$5,450,000.



## Implications for Funders of Social Enterprise Accelerators

From the preceding sections, we can see that acceleration programs create meaningful impact for the participating enterprises.

To quantify the impact achieved relative to the money spent on acceleration, it is necessary to estimate the average cost to accelerate an enterprise. Miller Center funds its acceleration programs through a mix of university resources<sup>5</sup>, gifts and grants from foundations and corporations, and pro bono services donated by our network of executive mentors.

The cost to run a Miller Center acceleration program varies depending on the cohort size, format, and other factors. Factoring in all of the hard costs and pro bono support, the cost of a full acceleration program and auxiliary support can range from \$30,000 to \$50,000 per enterprise. Philanthropic partners, such as Chevron, do not pay this full cost. For the comparison cohort discussed in this paper and the enterprises in the Climate Resilience Asia Pacific Accelerator, we estimate that the sponsors for those programs spent an average of \$18,000 per enterprise.

Using that price point, each dollar invested in acceleration by the philanthropic partner:

- improves 5.6 additional lives,<sup>6</sup> and
- helps unlock approximately \$280 of outside investment into a social enterprise.<sup>7</sup>



It is also important to note that these numbers far exceed the results shown by GALI, mentioned earlier in this paper, of \$1.14 in equity investment for each dollar invested into acceleration. It is out of the scope of this paper to fully explore the difference, but part of the disparity is due to the fact that GALI included only equity investments in their calculations, whereas Miller Center counts grants and debt as well as equity investments.

Another factor might be the quality of Miller Center's programs and selection process. Lastly, Miller Center focuses on post-revenue and early-growth social enterprises, which are more established than the enterprises in the GALI dataset. And, as seen in this paper, investing in enterprises with higher baseline revenues and investment is correlated to larger outcomes.

**This data implies that outside investment in running an acceleration program for established social enterprises represents a highly leveraged way to support social enterprise growth and create impact aligned to the funder's investment objectives.**

## Conclusion

The effects of climate change, already evident globally, are expected to be especially challenging for those living in poverty. The question becomes, what approaches can make a verifiable difference in improving climate resilience among the most vulnerable populations?

From the perspective of Miller Center for Social Entrepreneurship's deep experience in accelerating social enterprises, this white paper:

- Examines external evidence for the impact of social entrepreneurship on climate resilience, especially among those living in poverty.
- Presents some preliminary findings from a Climate Resilience Asia Pacific Accelerator that Miller Center conducted in partnership with Chevron.
- Because it's too early to draw long-term conclusions from the Climate Resilience Asia Pacific Accelerator cohort, the paper gleans data from a comparable cohort of social enterprises that had all completed a Miller Center acceleration program within the last three years.

Furthermore, we believe it's reasonable to assert a number of important things, including:

- Social enterprises are well positioned to address climate resilience in the communities where they operate.
- Social enterprises that graduate from an accelerator program tend, on average, to outperform enterprises that have not undergone acceleration.
- Investors interested in both financial and social/environmental impact results should consider focusing their support at the accelerator level in addition to investing directly in accelerated social enterprises.

Social enterprise accelerators represent a highly leveraged investment opportunity. Enterprises' acceptance into an accelerator program represents a certain 'stamp of approval' for their prospects. And as we've shown, a cohort undergoing a training program with a high-quality accelerator is more likely to yield greater financial and impact results.



## Appendix A: 2021 Climate Resilience Asia Pacific Accelerator Cohort Details

[A2P Energy](#) is a social enterprise in India working toward resolving the paddy straw burning problem by establishing sustainable projects for converting the straw into useful products such as energy and soil conditioners. The aim of the business is to provide value to all the stakeholders, starting with the farmers.

[Alternative Indigenous Development Foundation Inc](#) (AIDFI) is a social enterprise from the Philippines that tackles the problem of rural poverty by delivering affordable village water systems powered by its unique ram pump technology, which is accessible and income-augmenting for the poor.

[Cleanenergy Tech Solutions](#) was founded in 2016 in India with the aim to provide sustainable organic waste management solutions. They developed Swachh Gas, an indigenous modular biogas technology that is one of the most versatile, efficient systems and that gives excellent economic returns to urban as well as rural establishments.

[Deyhaat Connect](#) is a social enterprise in India that develops and operates solar pico-grids in rural India, offering affordable, reliable, and clean energy-as-a-service to last-mile, lowest-income-generating micro-enterprises and underserved communities.

[Distinct Horizon Pvt Ltd.](#) is a social enterprise in India that developed the world's first successful tractor-powered urea deep placement/fertilizer deep placement applicator, which strategically deploys urea briquettes into the soil—thereby doubling the profits of marginalized farmers and increasing food production, while protecting the ever-degrading environment.

[Fargreen](#) is a social enterprise working with rural farmers in Vietnam to grow gourmet mushrooms as an additional cash crop in order to support their families and reduce the open burning of rice straw leftovers.

[GerWeiss Motors Corporation](#) is a social enterprise in the Philippines whose mission is to uplift millions of tricycle drivers and their families from poverty, while eliminating the main source (~67%) of air pollution from the country's transport sector.

[Gravity Water](#) is a social enterprise working to provide schools in developing nations with safe drinking water systems that operate 100% energy-free.

[Khadyam Speciality Foods](#) is a social enterprise committed to providing healthy, innovative organic food in India and supporting small farmers in adopting sustainable agriculture and integrating them with the value chain of organic foods. (\*\*\*) did not complete the accelerator)

[ONergy Solar](#) is a social enterprise based in India providing the design, engineering, manufacturing, installation, O&M, and solar consultancy services for solar rooftop power plants, solar irrigation pumping, solar lighting, and microgrids. Their reliable solutions and services are focused toward reducing energy costs for their customers.

[Yayasan Rumah Energi](#) is a social enterprise whose mission is to strengthen and accelerate the deployment of 1 million domestic biogas markets in Indonesia so households can increase their quality of life.

## Appendix B: Comparison Alumni Cohort Data Details

To project potential results of the 2021 Climate Resilience Asia Pacific Accelerator, we examined data from a comparison cohort of Miller Center alumni social enterprises. The members of this comparison cohort were chosen for their similarity to the members of the Climate Resilience Asia Pacific Accelerator.

It is worth noting that in comparison to other accelerator programs, Miller Center accepts into its programs social enterprises that are larger and further along in their development stage than in many other programs, including those used by the Global Accelerator Learning Initiative (GALI) in its 2018 [net cost-effectiveness analysis](#).

According to GALI's database, which summarizes characteristics across several accelerator programs across the world, the average number of employees that enterprises have at time of application is 3.3. Similarly, the average revenue of enterprises at the start of their accelerator program is \$70,108. Both of these values are well below both the Climate Resilience Asia Pacific Accelerator cohort and Miller Center alumni comparison group—differences that are important to keep in mind when looking at the conclusions.

GALI: Geographic Region\_Average Number of Full Time Employees

Geographic Region	Average Number of Full Time Employees	Sample Size
Full Sample	3.33	23,241
East Asia & Pacific	4.29	620
Europe & Central Asia	2.73	725
Latin America & Caribbean	3.26	7,644
Middle East & North Africa	3.53	434
United States & Canada	1.43	5,283
South Asia	5.66	2,563
Sub-Saharan Africa	4.07	5,858

Data source: Entrepreneur Database Program at Emory University  
Data description: Venture-level application data collected between 2013-2016  
For more information visit [www.galidata.org/entrepreneurs/methodology](http://www.galidata.org/entrepreneurs/methodology)

GALI: Geographic Region\_Average Revenue

Geographic Region	Average Revenue	Units	Sample Size
Full Sample	70,108.94	USD	23,241
East Asia & Pacific	85,184.38	USD	620
Europe & Central Asia	69,675.32	USD	725
Latin America & Caribbean	92,368.24	USD	7,644
Middle East & North Africa	29,045.91	USD	434
United States & Canada	74,964.09	USD	5,283
South Asia	48,187.65	USD	2,563
Sub-Saharan Africa	48,875.13	USD	5,858

Data source: Entrepreneur Database Program at Emory University  
Data description: Venture-level application data collected between 2013-2016  
For more information visit [www.galidata.org/entrepreneurs/methodology](http://www.galidata.org/entrepreneurs/methodology)

Table 1: Descriptive Statistics: 2021 Climate Resilience Asia Pacific Accelerator Cohort

Variable	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Baseline.Impact	11	44,959	85,923	40	850	3,500	38,497	280,000
Baseline.Revenue	11	\$187,261	\$165,503	\$25,000	\$69,112	\$145,150	\$293,175	\$464,513
Baseline.Staff.Size	11	21.55	19.05	5	11	14	27.75	72
Baseline.Investment	11	\$1,625,032	\$3,265,233	\$10,000	\$90,000	\$300,000	\$514,879	\$10,151,15

Table 2: Descriptive Statistics: Comparison Cohort

Variable	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Baseline.Impact	18	32,516	77,349	550	1,347	5,000	14,343	300,000
Baseline.Revenue	18	\$203,480	\$131,170	\$55,000	\$81,975	\$170,288	\$333,451	\$450,000
Baseline.Staff.Size	18	12.06	8.38	2	7	11	14	38
Baseline.Investment	18	\$441,130	\$570,725	\$17,000	\$89,325	\$201,250	\$608,750	\$2,315,000

Table 3: Outcome Descriptive Statistics Alumni Comparison Group (Growth):

*These are the summary statistics for the entire alumni group based on the most recent data available. For enterprises that graduated in 2018, the growth values are based on 3-year data; for those graduating in 2020, it is 1-year data.*

Variable	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Growth.Impact	18	39,787	89,938	110	2,362	5,750	25,000	350,000
Growth.Revenue	18	\$262,330	\$225,668	\$1,500	\$113,800	\$205,000	\$305,269	\$900,000
Growth.Staff.Size	18	14.81	13.66	2	7.2	10	15.8	55
Growth.Investment	18	\$877,033	1,359,863	\$0	\$158,750	\$485,000	\$1,009,37	\$5,800,00

Table 4: Percent Change in Outcomes Alumni Group

Variable	Mean	% Change
Baseline Impact	32,516	122%
Impact Growth (outcome- baseline)	39,787	
Baseline Revenue	203,480	129%
Revenue Growth (outcome- baseline)	262,330	
Baseline Staff Size	12.06	123%
Staff Size Growth (outcome- baseline)	14.81	
Baseline Investment	416,857	210%
Investment Growth (outcome- baseline)	877,033	

## Appendix C: For Further Reading

Some additional resources that might be of interest regarding climate change and the role social entrepreneurship can play:

- Energizing Finance: Understanding the Landscape 2020. Sustainable Energy for All. 2020. [https://www.seforall.org/system/files/2020-11/EF-2020-UL-SEforALL\\_0.pdf](https://www.seforall.org/system/files/2020-11/EF-2020-UL-SEforALL_0.pdf).
- Levers of Change: How Global Trends Impact Gender Equality and Social Inclusion in Access to Sustainable Energy. Sustainable Energy for All. 2018. [https://www.seforall.org/system/files/gather-content/18\\_SEforALL\\_SEtrendsReport\\_0.pdf](https://www.seforall.org/system/files/gather-content/18_SEforALL_SEtrendsReport_0.pdf).
- OFF-GRID SOLAR MARKET TRENDS REPORT 2020. GOGLA. March 2020. [https://www.lightingglobal.org/wp-content/uploads/2020/03/VIVID%20OCA\\_2020\\_Off\\_Grid\\_Solar\\_Market\\_Trends\\_Report\\_Summary\\_High%20res.pdf](https://www.lightingglobal.org/wp-content/uploads/2020/03/VIVID%20OCA_2020_Off_Grid_Solar_Market_Trends_Report_Summary_High%20res.pdf).
- Solar firm OneWattSolar [a Miller Center scaleout alumnus] raises US\$24.4m for its off-grid renewable energy project. <https://africaincmag-com.cdn.ampproject.org/c/s/africaincmag.com/solar-firm-onewattsolar-raises-us24-4m-for-its-off-grid-renewable-energy-project/?amp>

## Endnotes

- 1 All dollar amounts in this paper are in US dollars
- 2 This number is the sum of total lives impacted self-reported by the 127 SEs working in SDG 7.
- 3 Miller Center also recruited SEs from Bangladesh and Thailand (two other Chevron priority countries), even though none made it into the program.
- 4 GSBI Accelerator 2011, Energy Access India 2016, Alumni Crisis Business Planning Program (CBPP) 2020, Climate Resilience Asia Pacific Accelerator 2021
- 5 Miller Center for Social Entrepreneurship is part of [Santa Clara University](#), which provides office space and some funding for core activities as part of the university's mission to create a more just, humane, and sustainable world.
- 6 99,810 cumulative lives improved divided by \$18,000 cost to run an accelerator
- 7 \$5,037,600 cumulative investment raised divided by the \$18,000 cost to run an accelerator

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Page 1: ONergy Solar

Page 2: Fargreen

Page 4: ONergy Solar

Page 5: Alternative Indigenous Development Foundation Inc (AIDFI), Fargreen

Page 6: GerWeiss Motors Corporation

Page 9: Alternative Indigenous Development Foundation Inc (AIDFI), Yayasan Rumah Energi

Page 10: District Horizon

Page 13: Gravity Water

Page 16: A2P Energy, ONergy Solar

Page 18: Alternative Indigenous Development Foundation Inc (AIDFI)

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## Learn About Miller Center

Miller Center for Social Entrepreneurship at Santa Clara University exists to accelerate entrepreneurship to end global poverty and protect the planet. We believe that entrepreneurship in service to climate resilience and women's economic empowerment provide pathways out of poverty for communities. Visit the [website](#) for more information about Miller Center and its [accelerator programs](#).

## Partner With Miller Center

Miller Center works with partners who share our belief that social entrepreneurship can have an outsized impact in tackling the world's most difficult challenges. From corporations to foundations, government agencies to international development organizations, accelerators to NGOs, we work with mission-aligned partners that provide us with the financial and human capital to support social entrepreneurs in their communities. Interested in supporting our work? Contact: Jeff Pilisuk, Assoc. Director, Partnerships, [jpilisuk@scu.edu](mailto:jpilisuk@scu.edu)

