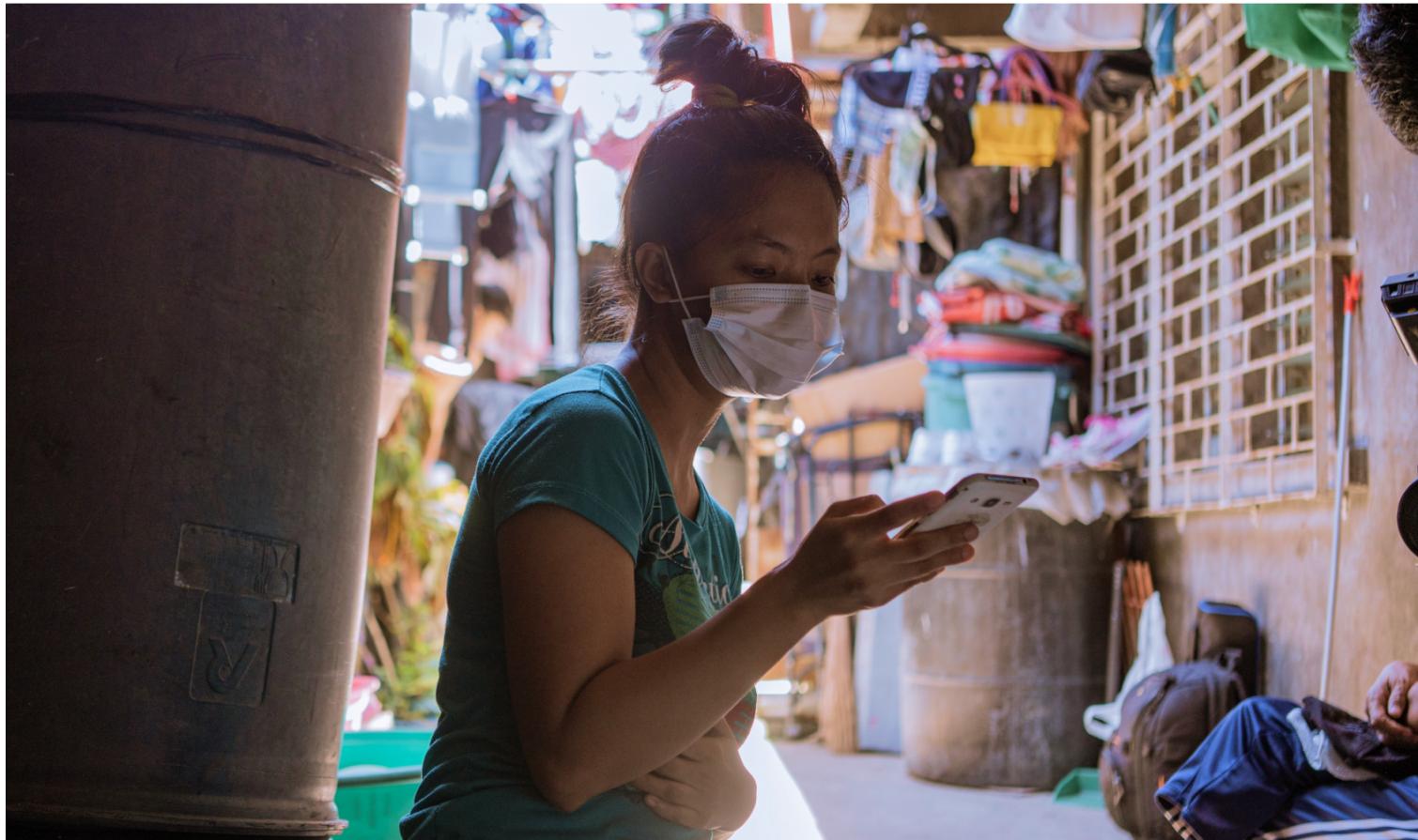


Delivering Humanitarian COVID Aid using the Celo Platform



Final Report on the Grameen Foundation
COVID-19 RELIEF Program | Philippines

February 2021

Acknowledgements

We would like to express our gratitude to the members of the Celo Alliance for Prosperity who made this project possible. Thank you to our partners from the **Grameen Foundation** who work tirelessly to bring financial services to the underserved: Gigi Gatti, Christine Violago, Elsie Delfin, Kim Panuncialman, Brent Chism. Thank you to Jonathan Chua, Albert Go, Edchel Indino, Justin Lee from **Beam&Go** who share in the mission of bringing prosperity to all. Thank you to our friends from **Keyko**: Enrique Ruiz, Pedro Gutierrez, Dimitri De Jonghe, Sebastian Gerske who helped design and build several tech tools used in the project. Thank you to our partners from **Anchorage** (Tricia Lin, Julie Velman, Geoff Claus), **Altonomy** (Soon Jin Tay, Jun Zhao), and **OKCoin** (Elaine Song) who ensured that funds were available and going to where they were meant to be. Thank you to **Seek Customer Support** (Cristine Campos, Leah Aldave, Eunice Sarsonas, Norman Cualteros) for their help in providing high quality service to beneficiaries. And our gratitude goes out to our microfinance partners, Ahon sa Hirap, Inc. (ASHI) and Ramon Aboitiz Foundation Microfinance Inc. (RAFI), for their support in identifying and supporting beneficiaries.

Several members of cLabs made outstanding contributions to this pilot: Will Le, Nitya Subramanian, Evan Kereiakes, Anna Kazlauskas, Denisse Halm, Angelo Kalaw, Alex Harley, Valentin Rodygin, Xochitl Cazador

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Executive Summary

The Celo Alliance for Prosperity members Grameen Foundation, cLabs, Beam&Go, Altonomy, Anchorage, Keyko, and OKCoin collaborated to deliver relief to 3,500 women entrepreneurs and their families in the Philippines who were severely affected by the COVID-19 pandemic. The project focused on women micro-entrepreneurs who carry a heavy burden of supporting their families and communities in this difficult time.

Of the 3,500 beneficiaries, 733 women microentrepreneurs received their grant in Celo Dollars (cUSD) through the mobile app Valora, which were redeemed online for food and medicine. This project is one of the first examples of a stablecoin on an open, decentralized, and permissionless blockchain being used for humanitarian aid delivery.

The Celo platform and Valora offered a solution to aid delivery that was expedient, cost-effective, secure, and entirely contactless. Valora was simple enough that despite the low tech-profile of many beneficiaries, onboarding and adoption was seamless. Key results include the following:

The total onboarding process was fully remote and took only 20 minutes over the phone.

The onboarding success rate stood at 98%. Internet connectivity or very low-end devices accounted for the unsuccessful downloads.

In total, \$158,855 was transacted in cUSD. Each transaction to send the grant to individual wallets only cost <\$.01, a 99.5% reduction compared to similar cross-border remittance services to the Philippines.

A custom-built dashboard for disbursing cUSD and for tracking and monitoring also secured transparency in implementation.

90.3% of beneficiaries gave a “very satisfied” rating to the program.

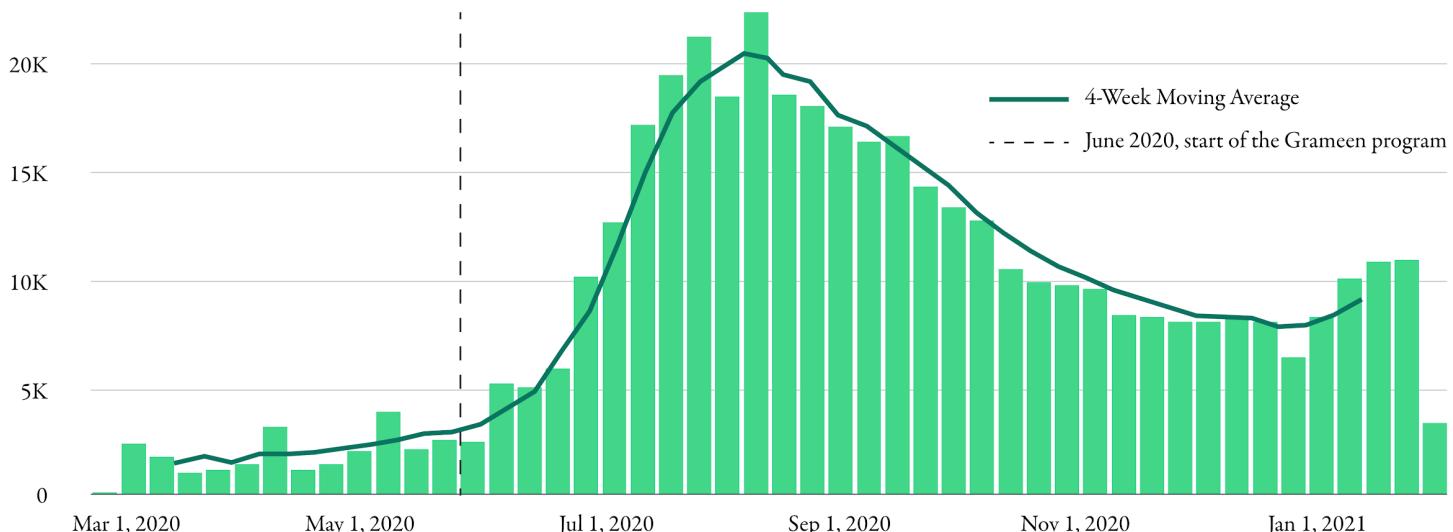
The project demonstrated the Celo platform and Valora’s ability to drastically reduce the cost of aid delivery while maintaining speed and transparency at scale. It likewise provided an opportunity for program partners to understand end-users better and find ways to introduce them to digital tools that can support their recovery and enhance their resilience. cLabs also obtained valuable insights to further improve the usability of Valora and build the ecosystem for Celo. We believe that this project showcases the tremendous potential for blockchain to revolutionize humanitarian efforts around the world, enhance financial inclusion and build resilient, prosperous communities.

Context and Landscape

The Philippines and COVID-19

At the program's onset in June 2020, the country had reached 20,000 confirmed cases and positivity rates stood around 6% daily.¹ The national and local governments responded by implementing strict lockdown measures, requiring all citizens to stay at home, closing all public businesses and restricting mobility. At that time, these rules have been in place for 3 months - putting great strain on many families who saw their sources of income dry up.

COVID Cases in the Philippines



Source: Department of Health

Enhanced Community Quarantine Rules:

- 100% stay-at-home
- No mass gatherings allowed
- No public transportation or domestic travel
- All establishments closed except for utility services (food, power, water)
- Mandatory quarantine passes required to leave the house (1 per household)

¹ Data from the World Health Organization and the Philippine Department of Health

Microentrepreneurs were among the hardest hit by the crisis, given that many rely on the informal sector and are the primary breadwinners for their families. A survey by the Asian Development Bank showed that 71.2% of microenterprises faced the immediate closure of their business or limitation of business operations. Many enterprises also faced sharp deterioration of financial conditions after the COVID-19 outbreak, with almost one-third of the surveyed enterprises reported they had no cash or savings to cover operation costs.²



Profile:

Meralyn Apor is a 52-year old microentrepreneur in Cebu City. Meralyn used to sell fruits as her main source of income to support her family's needs but the strict community quarantine measures forced her to stop. Her business was closed and she had no choice but to look for other ways to earn.

Through the relief, Meralyn bought items such as rice, meat, coffee, milk and vitamins for her family. She also bought some items and ingredients for her new small business - nuts and small donuts, which she sells by walking around the community as the restrictions eased. Meralyn's family is among the many affected Filipinos that the Grameen program sought to help.

Grameen's COVID-19 RELIEF Program

Working with local microfinance institutions, Grameen identified 3,500 beneficiaries in Manila and Cebu to receive a cash transfer of about \$100 for groceries and medicine. This was a one-time cash grant that did not need to be repaid.

Grameen tapped cLabs as the technology partner in order to deliver aid in an expeditious and safe manner. Moreover, Grameen hoped not only to distribute aid, but to introduce digital financial services that enable this low-income population to recover and prosper. This presented a challenge and opportunity for Celo.

² Asian Development Bank (July 2020). The COVID-19 Impact on Philippine Business: Key Findings from the Enterprise Survey.

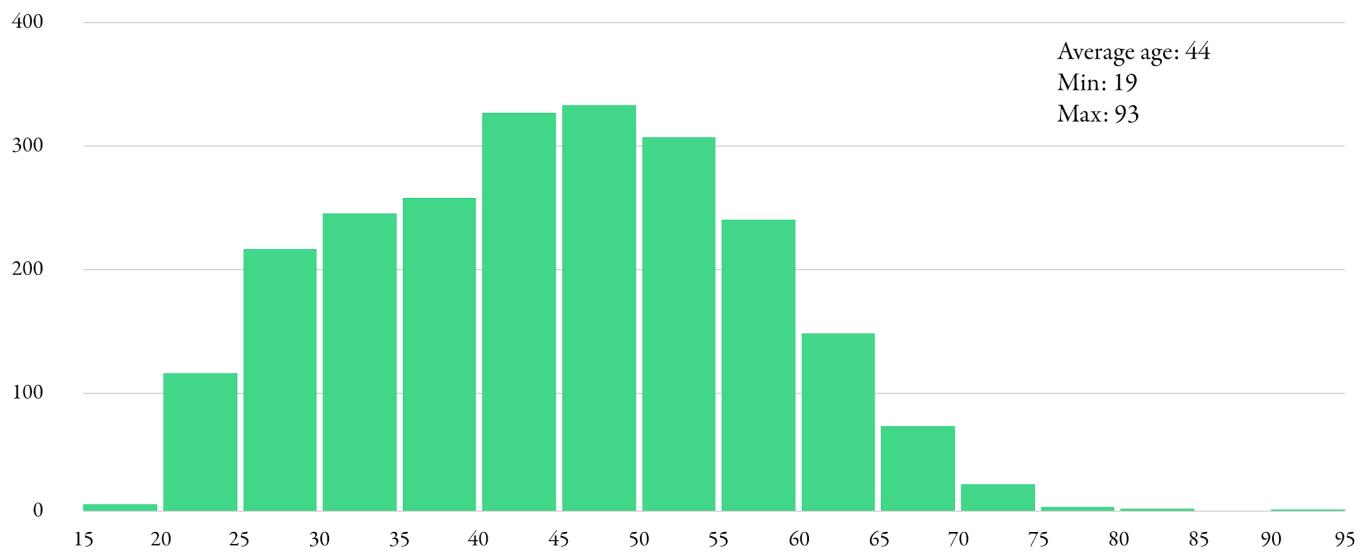
The Challenge

How might we use Celo to deliver COVID relief aid in a manner that is safe, efficient, and transparent and which lays the groundwork for digital financial inclusion?

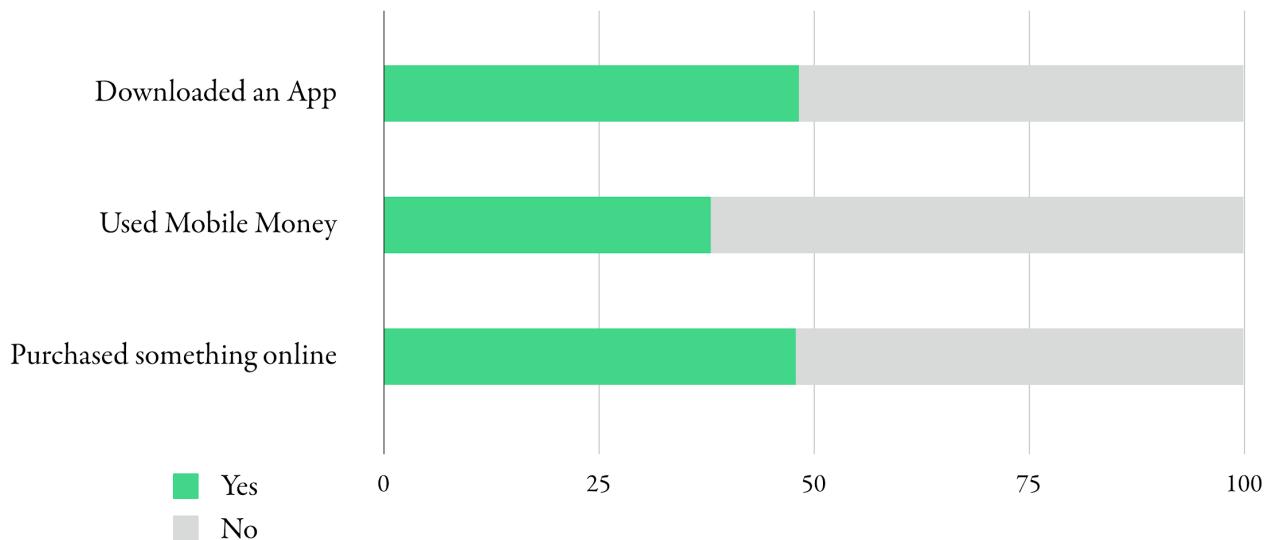
The Grameen Foundation could not rely on traditional tools that they may typically use for aid distribution. Strict quarantine measures and the risk of COVID infection prevented door-to-door distribution or gathering beneficiaries in a single space to understand their needs and assess their readiness for the technology. It was also important to figure out reliable merchants where beneficiaries can spend their aid. Given the urgency of immediate relief, the program needed to rely on a digital onboarding and implementation strategy.

The implementation also needed to closely consider the profile of our beneficiaries. Learning from the [July 2019 pilot](#), we knew that the Philippines is ripe for an innovative technology like Celo and Valora, but the issues of technological literacy, internet connectivity, and trust building are concrete challenges to be addressed. Indeed, a survey of the Grameen beneficiaries revealed that more than half have never downloaded an application nor used mobile money before the program.

Age Distribution of Beneficiaries



Technology Experience

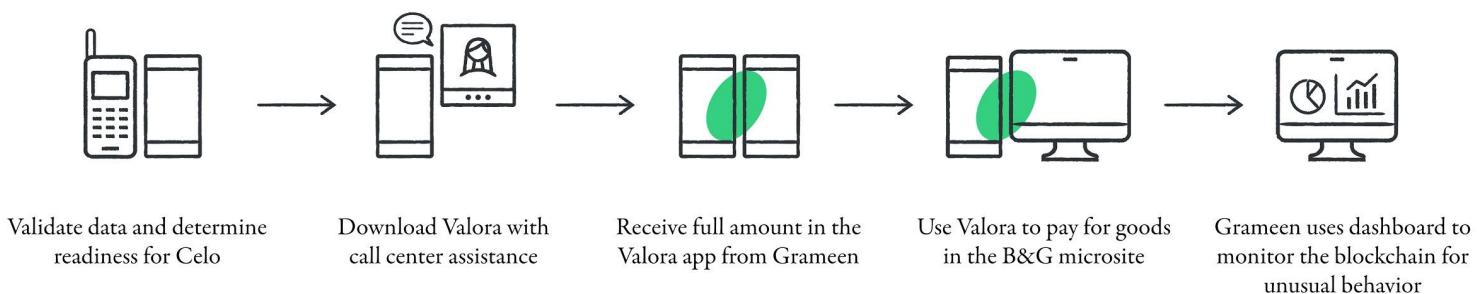


The Celo Solution: An Aid Distribution Program Powered by cUSD and Valora

A Beneficiary-Centric User Journey

We designed the program to center on the beneficiary's needs and context. Through action research, iteration and close partnership with Grameen Foundation, we invested in a process that will bring the benefits of cryptocurrency and Valora to this vulnerable population in an effective manner.

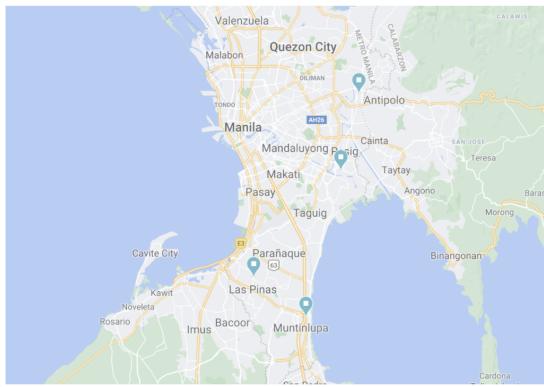
User Journey for Grameen COVID-19 RELIEF



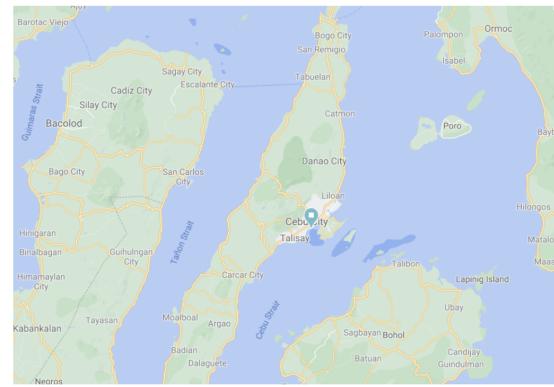
Eligibility Criteria and Program Structure

Grameen determined the selection criteria based on poverty level, family size, and how their businesses had been impacted by COVID. The chosen microentrepreneurs participated in two phases for the program. In Phase I of the program, Grameen facilitated delivery of non-cash vouchers for groceries and medicine. Then, the same beneficiaries received a business curriculum in the second phase to increase their financial resilience.

In Phase I, Grameen partnered with two microfinance institutions - Ahon sa Hirap, Inc. (ASHI) in Metro Manila and Ramon Aboitiz Foundation Microfinance Inc. (RAFI) in Cebu City - to generate a list of eligible recipients from their active members. The beneficiaries were scattered across 4 cities in Metro Manila (Las Pinas, Marikina, Muntinlupa and Pasig) and in Metro Cebu in Central Philippines.



Map of Metro Manila - Location of Beneficiaries from ASHI



Map of Cebu, Central Philippines - Location of Beneficiaries from RAFI

Determining the Celo Cohort

We set up a dedicated call center for the project to validate the data of the 3500 beneficiaries shared by Grameen and to obtain information about their mobile phones and internet connectivity in order classify them into two cohorts.

The smartphone users received their grant through the Valora app (Celo Cohort), while keypad users received SMS vouchers that can be redeemed in specific supermarkets and drugstores (SMS Cohort). The program enrolled 733 beneficiaries under the Celo cohort, which enjoyed additional options and more control on the spending of their grant. The key differences between the two cohorts are summarized below:

	SMS Cohort	Celo Cohort
Type of Phone	Feature Phone	Smartphone
Means of Delivery	SMS Voucher from Beam&Go	Celo Wallet (Valora)
Redemption	Physical only	Online shopping, Physical redemption
Merchant Choices	Specific merchants based on proximity	All merchants available to non-Celo cohort plus additional merchants in the B&G website Delivery option Grocery packages Mobile load Vouchers for in store purchase
Balance Management	One-time fixed voucher - beneficiary should spend the full amount at the grocery/ pharmacy	Running balance - beneficiary can decide how to spend the grant

Onboarding and Disbursement

The call center agents provided step-by-step guidance in the local language (Filipino or Cebuano) to make sure that the users understand and trust the Valora app. Those that successfully downloaded Valora received the full peso equivalent of cUSD from Grameen directly to their digital wallets.

The screenshot shows the Valora app interface. At the top, a red banner reads "What is available in Cebu". Below it, a navigation bar includes "Home / Products", "FAQ", and "Logout". A section titled "MOBILE LOAD" displays three options: "Globe PHP 50" (Globe 50 PHP 50.00), "Smart PHP 50" (Smart 50 PHP 50.00), and "Sun PHP 50" (Sun 50 PHP 50.00). Below this, a section titled "DELIVERED TO YOUR HOME" shows four grocery delivery items: "Fresh Chopsuey Set PHP 629.00" (Delivery in Metro Manila, SAVE P70), "Pinoy Almusal Pack PHP 939.00" (Delivery in Metro Manila, SAVE P40), "Mega Grocery Package... PHP 4,400.00" (Delivery in Metro Manila), and "All Day Ulam Pack PHP 939.00" (Delivery in Metro Manila, SAVE P60).



Purchase

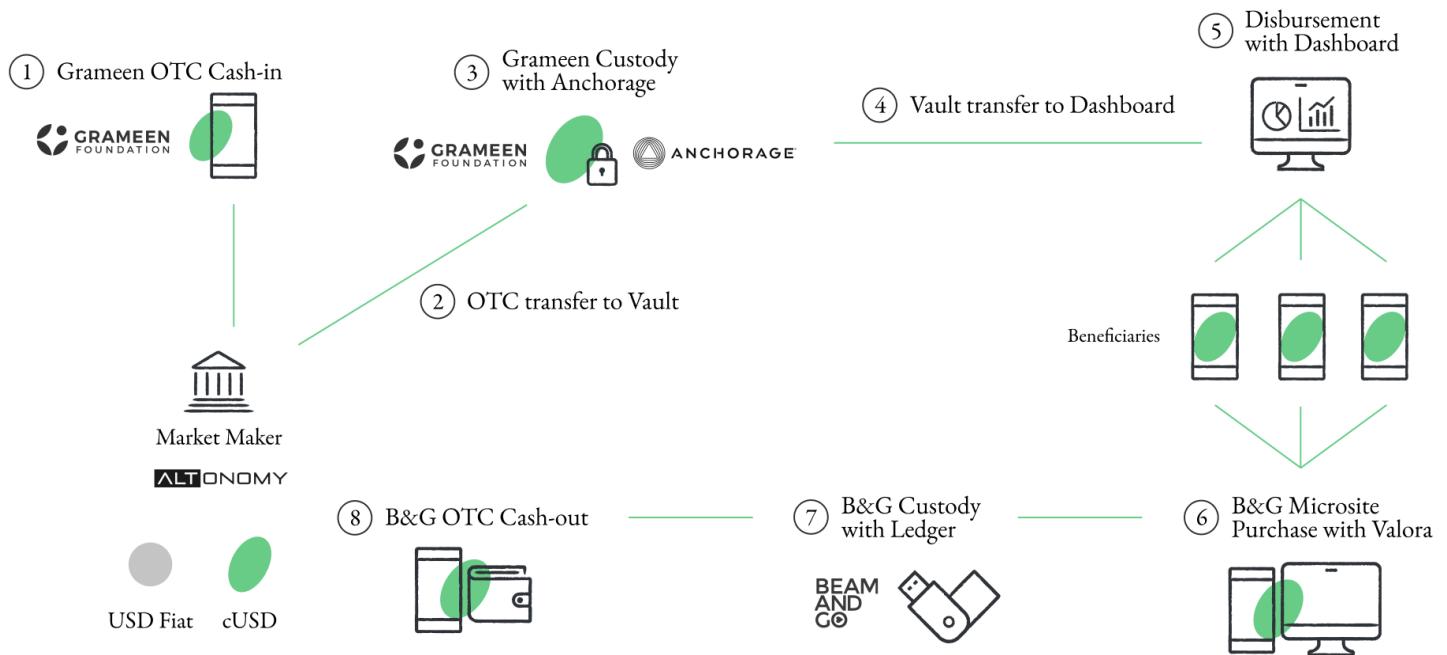
Through our alliance partner, Beam&Go, Celo cohort beneficiaries used their grant in an online microsite that offered multiple options for grocery vouchers and delivery items.

This was made possible by BeamAndGo's robust network of merchants and suppliers combined with its experience in catering to overseas Filipino workers and their families. For more than half of the Celo cohort, this was their first time shopping online. On the other hand, BeamAndGo's SMS-based system was also an effective method of delivering aid to those without a smartphone or in places with limited network connectivity, ensuring that no one will be left behind.

Project Ecosystem Map

Implementing an aid distribution project like this at scale required an ecosystem that secured access to ample cryptocurrency liquidity, efficient safekeeping of assets, convenient spending, and easy monitoring of fund flows.

The Grameen COVID-19 RELIEF project was made possible through a collaboration among seven Celo Alliance for Prosperity members. Aside from cLabs, Grameen Foundation and Beam&Go, Altonomy, Anchorage, Keyko, and OKCoin lent support to the project to help demonstrate the case of using new technologies to enable prosperity. This collaboration is illustrated below:



First, Altonomy served as the market maker that converted Grameen's USD fiat into cUSD. Next, Grameen opened an account with Anchorage for the custody of their crypto assets, safeguarding it until the point of disbursement.

To disburse funds, Grameen used the custom-built dashboard from cLabs. A Grameen officer creates a hot wallet where a given amount is transferred from their Anchorage vault and then sent to a list of Valora account addresses that were confirmed to be working. Any remaining balance unused in the hot wallet returns safely to Grameen's Anchorage

vault. The dashboard was designed to be simple to use even for a non-technical organization. It also allowed partners to monitor transactions in real time to understand when funds have been spent, to spot any suspicious activity, and to trace funds from the donor to the beneficiary to the merchant.

Beneficiaries used their cUSD in Beam&Go's microsite. Finally, to close the loop, Beam&Go custodied their cUSD using a ledger and converted it to fiat through Altonomy.

Spotlight on Members of the Alliance for Prosperity



Beam&Go

The **Grameen initiative** we undertook with CELO and JP Morgan represents what Beam&Go stands for - effectively providing technological solutions that would greatly impact communities in need. This is in line with our chief advocacy to uplift the lives of Overseas Filipino Workers (OFWs) and the improvement of their family's living conditions in the aspect of their finances and family upbringing.

Given that Beam&Go has successfully improved the lives of over 250,000 OFWs by providing them with products that catered to the basic needs of their families such medicine and supermarket digital e-vouchers to name a few, we were selected by CELO for this project to provide immediate COVID-19 relief assistance to over 3,500 women with small businesses. Each family was given \$100 or about Php 5,000 pesos.

Through our digital marketplace and financial ecosystem, our project team led by Justin Lee (Head of Engineering) and Shelly Indino (Customer Service and Sales Head), built a customer centric micro-site - grameen.beamandgo.com that catered to the 3,500 MSME families the Grameen project with . In that marketplace, they selected from over 30 brands of supermarkets and pharmacies nationwide and were sent digital vouchers for easy redemption of goods and medicine.



Altonomy

Altonomy is a trading, advisory and asset management firm specializing in cryptocurrency and digital assets. It is the first-ever dedicated sell-side trading desk to provide institutional-grade liquidity solutions, OTC trading, advisory and asset management services under one roof.



Anchorage

Anchorage is the first OCC chartered digital asset bank built to meet the needs of institutional investors, leveraging the best of modern security engineering to secure the foundation of the crypto financial system. With a platform that is modular and adaptable to any blockchain use case, Anchorage supports all assets that meet our standards of quality and security. Anchorage's expanding lines of business include custody, staking, governance, lending, margin/financing, trading/brokerage, and integrated API solutions.



Keyko

Keyko develops ecosystems for a fair and transparent decentralized future. Keyko helps organizations implement and automate their Digital Ecosystems with operational and governance frameworks that improve adoption and reduce regulatory and compliance risks relative to user privacy. In this project, Keyko supported the requirements gathering and engineering process design, including defining acceptance criteria for the different aspects of the Application. The architecture of the Web3 Application and hosting was also planned and executed by Keyko. A group of specialists in their respective domains from both Keyko and Celo jointly took care of the implementation.



OKCoin

OKCoin is on a mission to make crypto investing and trading easily accessible to anyone around the world. OKCoin is a globally licensed exchange with offices in San Francisco, Malta, Hong Kong, Singapore, Japan and Korea. We are a collective of global citizens with a common passion to help decentralize finance and level the economic playing field for everyone around the world. OKCoin lists CELO and cUSD.

Valora

The project coincided with several developments in the Celo platform, including the successful launch of Celo Dollars (cUSD) as the first stablecoin on the network via an on-chain governance proposal. Moreover, the Grameen project was an opportune time to deploy Valora, the global payments app built by the cLabs team, prior to its launch in public beta on iOS and Android in the later part of 2020.

Valora provided a utility that finally makes blockchain useful and accessible on even the most basic smartphones, which rightly fits the profile of the beneficiaries of the Grameen project.

Deeplink integrations between Beam&Go and the Valora app provided the microentrepreneurs with a light and seamless purchase experience by connecting individual shopping baskets to their Valora wallet. Upon checkout, a dynamic QR code system sent a pre-filled request for payment in the user's Valora app which only required a single confirmation click to complete. This allowed Beam&Go to easily track successful payments and automatically send confirmation to individual users.

With all these elements in place, the Grameen project piloted the use of an open and decentralized stablecoin like cUSD and a blockchain-based app like Valora in humanitarian relief. We discuss the results in the next section.

Key Results

733

Beneficiaries as part of
Celo cohort

98%

Onboarding Success Rate

\$158,855

Total cUSD Transacted

19

Avg Time for
Onboarding Phone call
(mins)

<\$0.0001

Cost per each
transaction

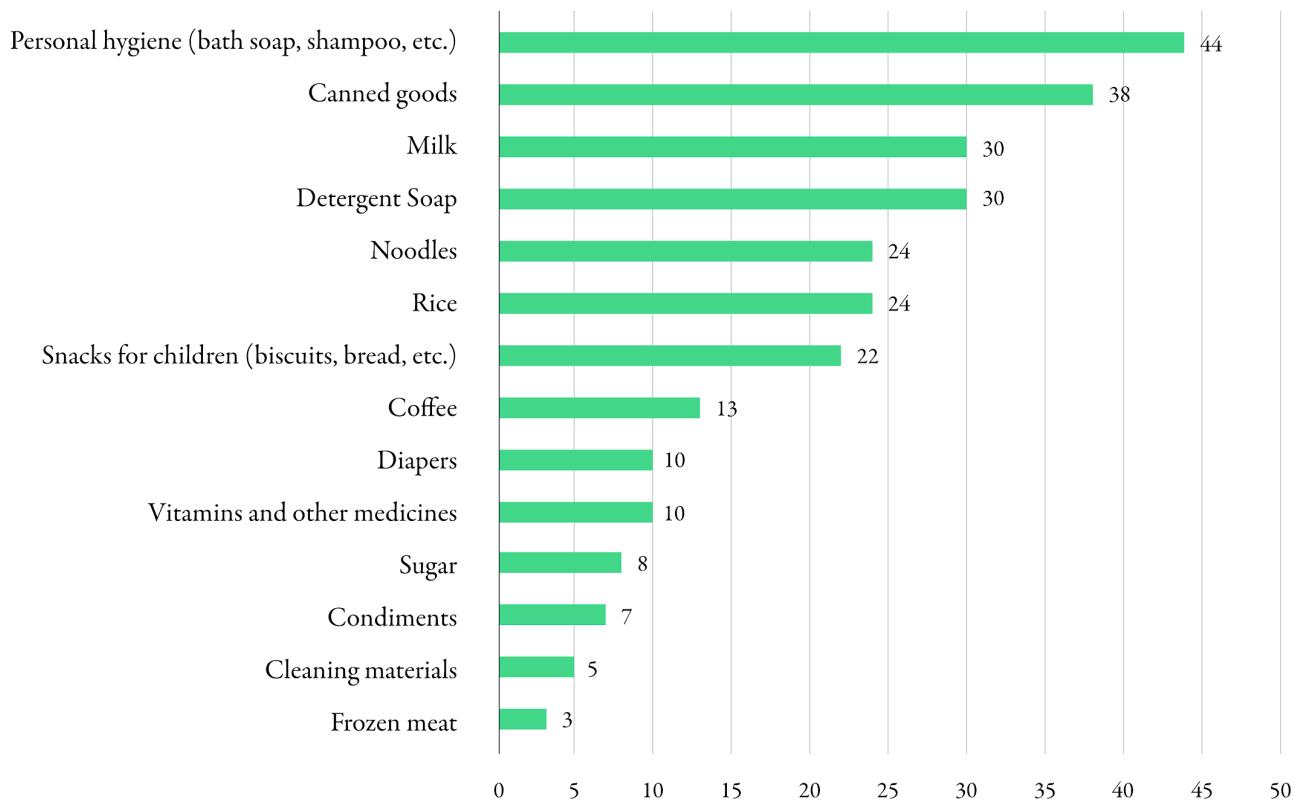
90.3%

% of Beneficiaries who
were "Very" satisfied with
program operations

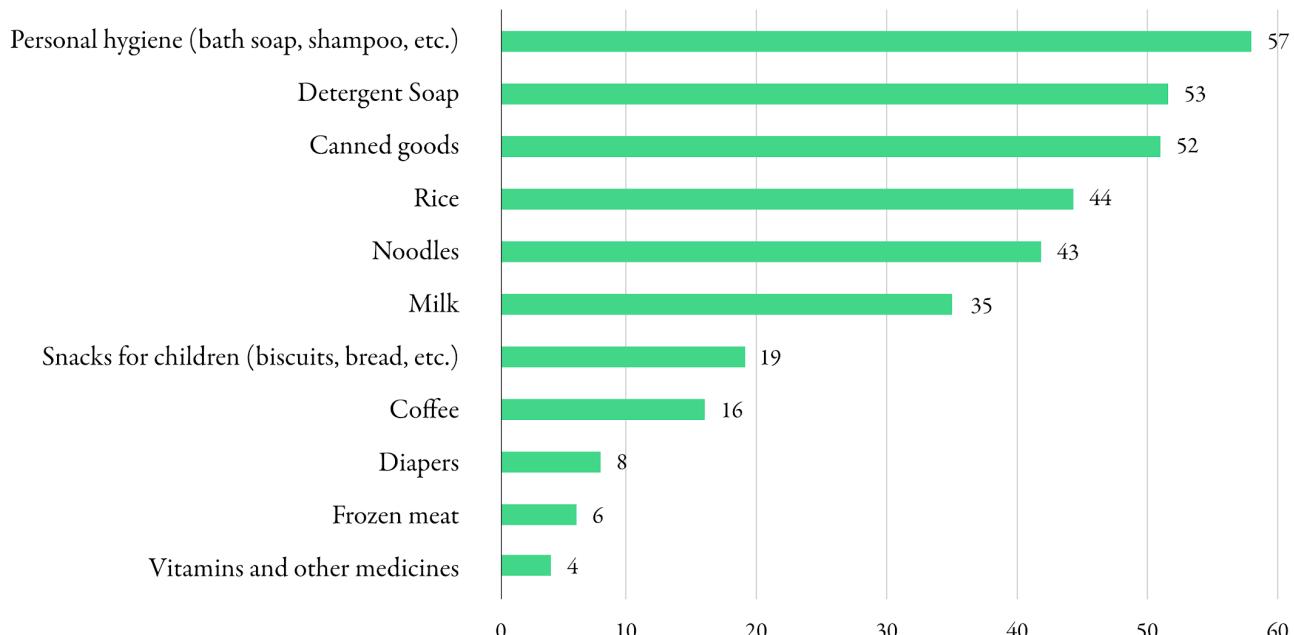
The project successfully delivered the grant to 3,500 beneficiaries, who spent their funds to purchase food and hygiene items for the personal needs of their household members. This highlights the need for relief of these families, especially since many of them lost their income to support their daily needs.

Survey of items purchased by Grameen beneficiaries

Metro Manila



Cebu City



Source: Grameen Foundation

At the same time, the grant also helped some microentrepreneurs to alleviate the disruption brought about by the pandemic in their businesses. The same survey showed that around 20-37% of beneficiaries used the grant to purchase items for their businesses such as raw materials for their products (rice and meat) or as additional inventory for their store.



Profile:

Soledad Regis is a 72 year old widower in Muntinlupa City. She is a microentrepreneur and an active member of Ahon sa Hirap Foundation Inc. (ASHI). Soledad is a diabetic.

She used to sell packed meals to different offices and worked as a cook in a small canteen before the pandemic. When COVID-19 hit, she and the members of their household lost their sources of income.

“Nashock at natakot kami (sa community quarantine)... takot na matay sa gutom...” (We were shocked and scared of the community quarantine... We were scared that we'll die of hunger.)

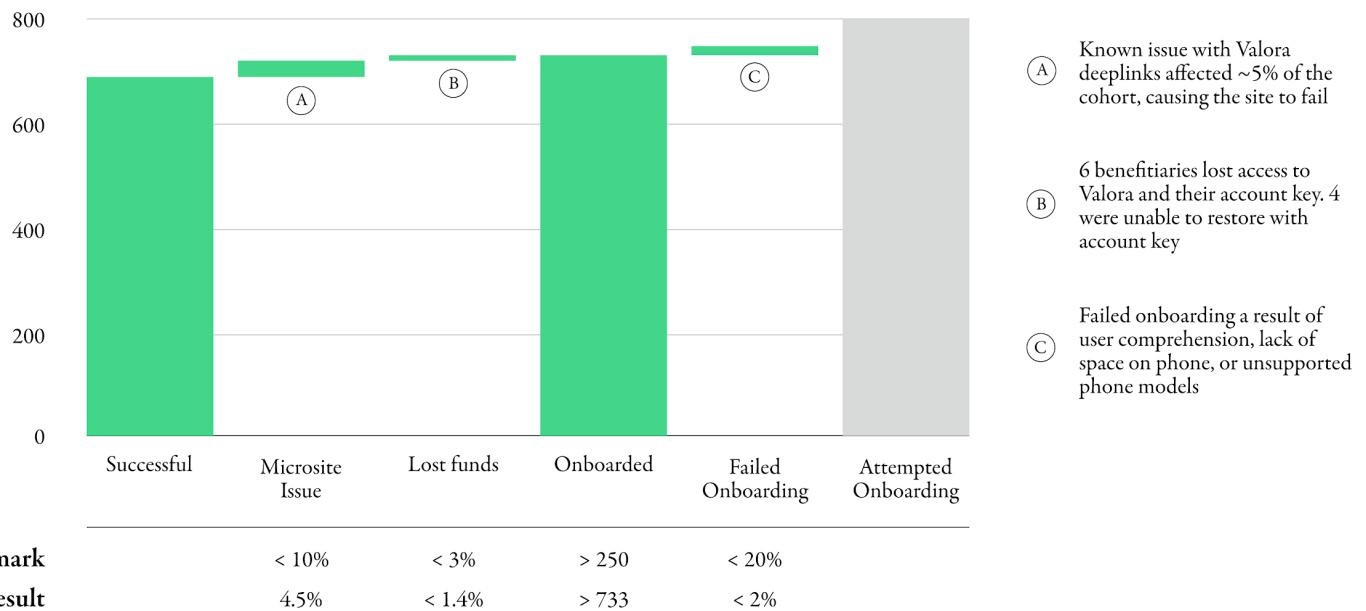
Soledad used the grant to purchase food and medicines for her household. *“Sobra ang tuwa namin nang makatanggap kami ng tawag (tungkol sa ayuda)... Malaking tulong ito sa amin.”* (We were so happy when we received a call about the relief assistance. The assistance was really a big help to us.)

In terms of technology adoption, the call center model coupled with close coordination with microfinance institution partners helped us achieve efficiency and scale. Within 1.5 months, we assisted 733 new downloads across 5 cities and registered a 98% onboarding success rate. The average handling time per beneficiary to complete the process stood at 19 minutes. Internet connectivity or very low-end devices accounted for the unsuccessful downloads.

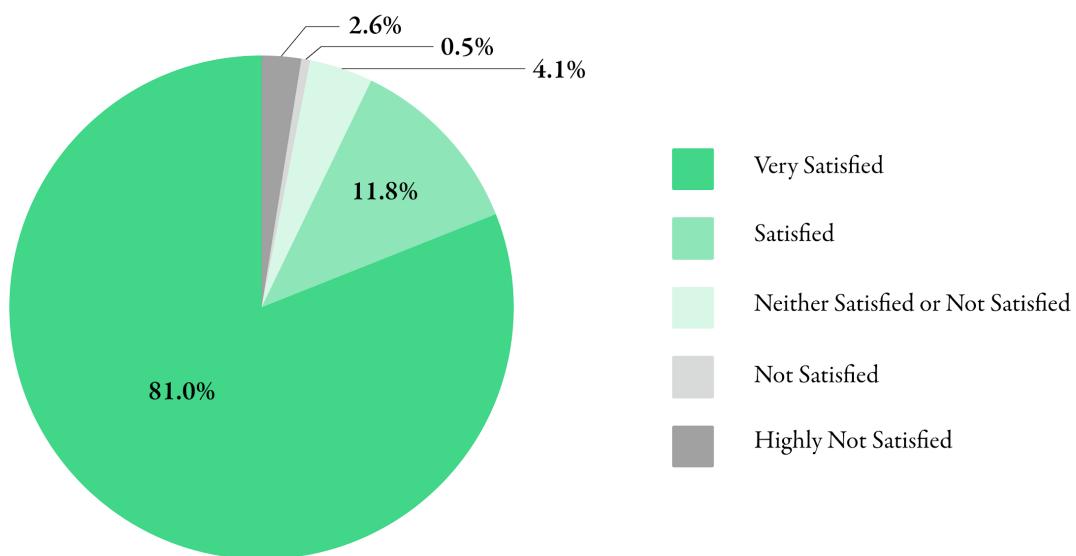
In total, \$158,855 was transacted in cUSD, and the cost per transaction was minimal. The disbursement also involved a transfer from Grameen's account in the US to the Valora wallets of beneficiaries in the Philippines. This was completed in only minutes, and each transaction only cost <\$.01. The largest transaction on record amounted to \$52,000, which was distributed to 505 beneficiaries within minutes.

In general, Valora outperformed project success benchmarks. A high majority of the beneficiaries was able to complete a microsite purchase without issues. Nonetheless, there were still some beneficiaries (1.5%) who lost access to their funds. The program offered a manual workaround to ensure that they do not lose access to their grant.

Celo Cohort Waterfall



At its conclusion, the program received very positive feedback from beneficiaries, with 90.3% of surveyed participants giving at least a “satisfied” rating to their overall experience.





Lessons Learned

Celo's Advantage: Speed and Affordability

Using the Celo platform to transfer funds across borders led to a 99.5% reduction in costs (each transaction only cost <\$0.01), in sharp contrast to 2-3% cost of the average Philippine remittance. At the same time, there are also reduced costs related to the limited infrastructure requirement of this solution. Consider for example an alternative implementation scheme that involves the deployment of disbursing agents or reliance on ATM cards to distribute cash. This would have led to higher administrative costs and longer implementation time on the part of Grameen Foundation, and potentially more costs to beneficiaries who need to do multiple trips to obtain groceries and medicines. The risk of COVID exposure would also be unmitigated.

In contrast, the project piloted and iterated on a fully remote onboarding and implementation process. The call center supported efficient information dissemination and beneficiary support, including the process of building trust and legitimacy for the technology solution. The user-friendliness of Valora as an application also contributed to the high onboarding success rate. Given these, we completed the distribution from onboarding to redemption within 2 months.

This project demonstrated the benefits of using a Celo-based solution for aid delivery even among low-tech populations and constrained environments.



Profile:

Resalijen Johnson is 35 years old from Cebu City. She is an active member of Ramon Aboitiz Foundation, Microfinance Inc. (RAFI).

Before the pandemic, Resalijen had a small business that includes selling ready to wear items, slippers, sandals, and frozen goods.

Her family encountered a lot of difficulties during the pandemic. She could not buy items for her business and her husband also stopped working because of the community lockdown. With this, she and her husband looked for other ways to earn a living. They started a charcoal business to survive and cover their daily needs. The relief assistance was timely in this transition, because she was able to buy rice, groceries, medicine and other essential things needed for the household.

"I would like to thank the goodness that we received from RAFI, cLabs, B&G, and JP Morgan. They gave us blessings for our everyday needs. We were saved and were provided with what's essential for the whole family to fulfill our everyday needs," Resalijen said.

Supporting Efficiency and Organizational Change through Transparency

cLabs developed a disbursement dashboard for the project to assist a non-technical organization like Grameen to quickly transfer cUSD to hundreds of wallets at once.

Projects > Project CVI9ASHI >

Disbursement 5cf59426

[Close](#)

cUSD Balance \$0	Disbursement Summary		
Address 0x0405...1FF9	Initiated by edulfin@grameenfoundation.org		
	Transactions	Amount (cUSD)	Total Disbursed (cUSD)
	505	\$103	\$52,015
	#▲	To	Amount
	1	0xb2ca...27df	\$103
	2	0x020d...4dea	\$103
	3	0x8244...acf5	\$103
	4	0xa8cf...9730	\$103
	5	0x7e70...6526	\$103
	6	0xf110...ee81	\$103

The blockchain-powered dashboard also served as a simple tool for tracking, monitoring, and reporting on transfers and balances, which facilitated transparency in the program.

Transparency, which refers to the availability, accessibility and simplicity of information in the project, became valuable in two ways. First, the real-time access to data on wallet balances helped project managers identify beneficiaries experiencing difficulties and then coordinate with the appropriate branch officers of the microfinance institutions for additional support. It helped in the proactive management of the project rather than waiting for issues to arise. Second, the dashboard also helped the call centers of Valora and Beam&Go provide responsive technical support and issue resolution, including one case of theft.

Transparency is also an important component that supported the organizational change involved in adopting technology like Celo. Seeing each of the components of the technology in a simple and understandable way helped facilitate an efficient flow of information among stakeholders involved. More importantly, it helped build capability and confidence for project managers without the need for an over-technical approach. By investing in and ensuring transparency, we took the technology out of the black box so that humanitarian organizations can focus on the developmental objectives of their project.



Profile:

Elsie Delfin is the Senior Associate for Programs and Operations of Grameen Foundation's Office in Manila. In this role, she served as the Coordinator of the COVID-19 RELIEF Program, liaising with Grameen's two microfinance institution partners, resolving implementation issues and disbursing the grant to individual wallets.

"At first, I was very nervous because I have not managed a digital distribution of aid before and I have a very basic understanding of blockchain technology. Our microfinance partners were also skeptical and worried that their members would struggle with their mobile phones."

The Grameen country team worked closely with their MFI counterparts to disseminate information to beneficiaries and understand their pain points. They also worked with cLabs to understand the technology behind cUSD and Valora, and be able to explain it in simpler ways to their partners.

"The dashboard was an effective tool for the team to implement the project. It was not complicated and it made the transfers easy to execute. After the first few releases and purchases by beneficiaries, we became more confident that the system is secure and functional. It was also helpful to see the flows in real-time even if we are all working from home."

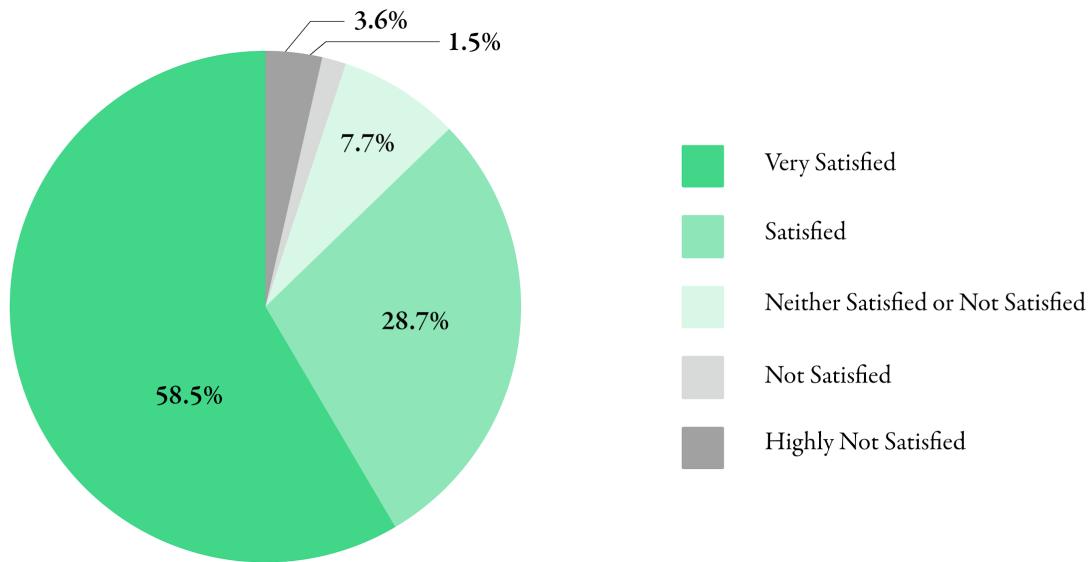
Elsie considers the project as a great learning experience for Grameen and its partner institutions. *"We are delighted to experience how a new technology like Celo can help improve our work and ultimately add value to our stakeholders, the women microentrepreneurs."*

Listening to End-Users

It was the priority in the design and implementation process to center on the experiences and needs of the beneficiaries, because the ultimate goal of the program is to alleviate the adverse impact of the pandemic on their lives and introduce them to resources that enhance their personal and entrepreneurial resilience. Fostering a positive experience through this program could also lessen their discomfort with technology and increase their interest and willingness to utilize digital tools in their businesses and everyday lives.

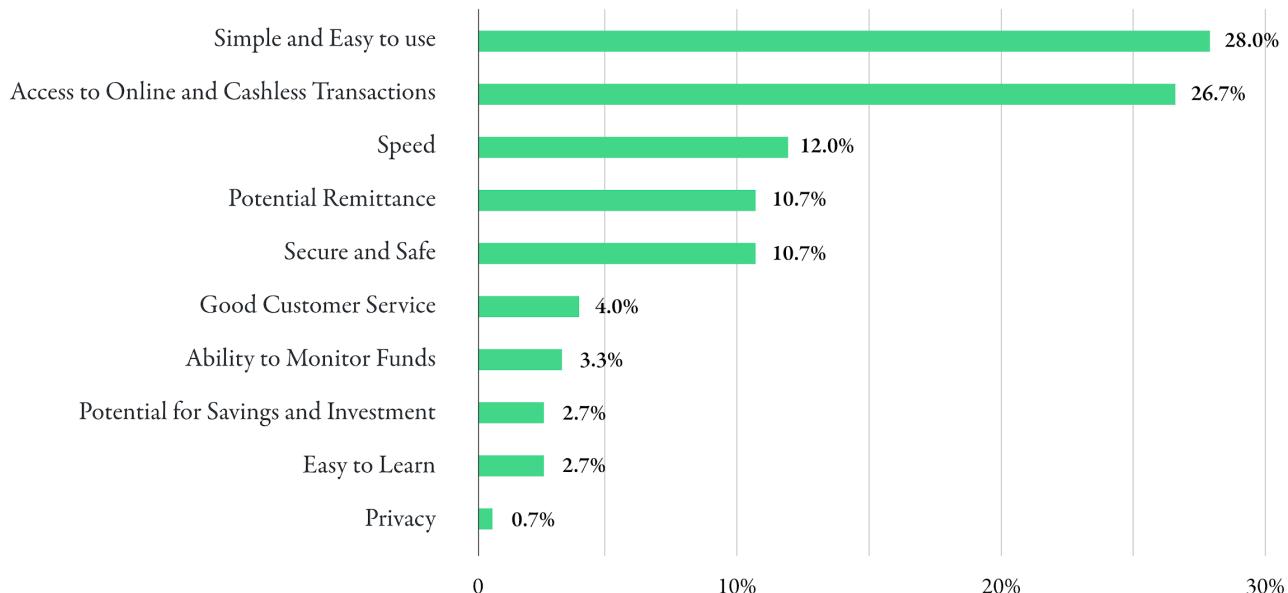
At the conclusion of the program, 87% indicated satisfaction or high satisfaction with Valora, and 80% expressed that they would recommend it to their friends and family.

Satisfaction with Valora among the Celo Cohort



Surveyed users highlighted the ease of download and use of the app, as well as the convenience of cashless and online shopping through Beam&Go. This cements the idea that the simplicity in the interface and the reliability of transactions are important values for beneficiaries to trust the app.

Why would you recommend Valora? (multiple responses)



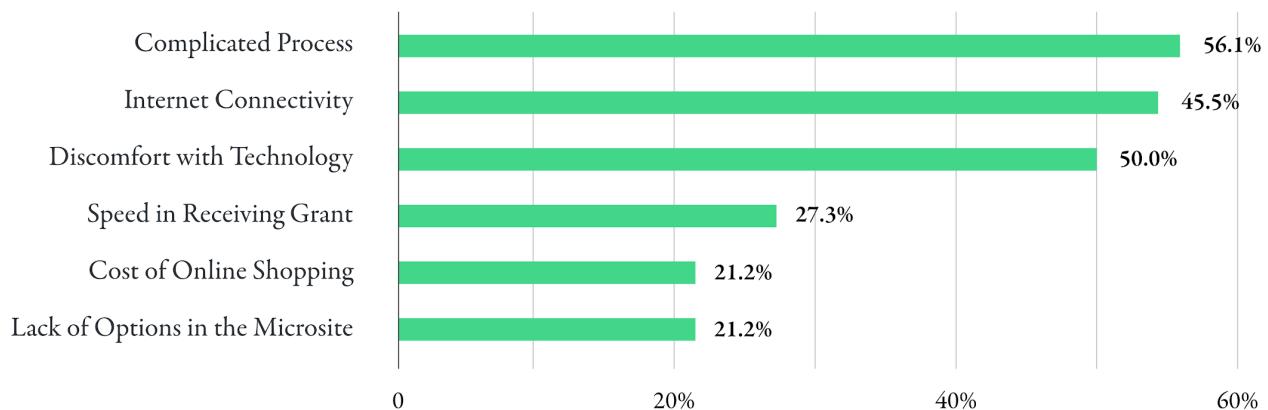
However, the program is not without hiccups. One of the most common complaints was that the account key, Valora's security feature, was too long. The words were also in English which became another pain point for some beneficiaries. In response, the program team decided to double down on user education and likewise sought the help of Grameen's microfinance partners in reiterating the importance of the account key.

Still, self-custody proved to be risky as 1.5% of users eventually lost access to their funds. (For this project, the Celo Foundation made whole those who lost access to funds.) The pilot revealed the need to simplify the backup key and account restoration process without compromising security and privacy. We are exploring several options on this front for subsequent projects.

Moreover, we also surveyed the Celo cohort about their views regarding receiving aid through Valora. While they may have a positive experience of the app per se, some beneficiaries expressed their struggles with the app in relation to the relief program. Respondents cited the subsequent processes involved in spending their cUSD and claiming their purchases, as well as the implicit cost of airtime or mobile load to connect to the internet. This goes back to the challenge of low connectivity and tight budgets of vulnerable populations. We need to fully consider the direct and indirect costs to participation, and find ways to mitigate the same from becoming a barrier to access their aid.

In the end, given the urgency of need to support their families, some beneficiaries will inevitably prefer the most expedient and simplest way to get relief regardless of the novelty of technology. These are important considerations in designing similar technology-powered humanitarian projects in the future.

Why would you not prefer receiving the grant through Valora? (multiple responses)



Building a Robust Ecosystem for Celo



It is important for technology-powered projects like this not to be a one-time event but instead be a gateway towards the benefits of digitization for recipients. Through our interviews, many of our women entrepreneurs showed interest in using Valora as their digital wallet of choice. They wish to send small amounts to their family members or friends, or even use Valora in their own businesses. Beneficiaries also enjoyed the convenience and safety of cashless transactions, but digital money is new and can be a little intimidating. For them to trust the technology more, it needs to be as close as possible to the ease-of-use and credibility of cash, which also means wide acceptance in the economy.

Other beneficiaries also suggested using Valora to save and borrow money from their microfinance institutions. This implies that we need to continue growing local ecosystems for Celo and encourage broader adoption of Valora. To this end, we need new features that correspond to users' daily needs such as mobile top up, bills payments and cash in/out options.

During the project, we were also able to pilot a small in-store redemption process through a local meat shop partner. The meat shop was strategically located close to 15 Celo cohort beneficiaries in Las Pinas City, who were invited to spend their grant in-person or pay for delivery. This allowed us to test Valora for this purpose, as well as obtain insights on how grassroots merchants might adopt the app as a payment solution.



Activating a robust ecosystem of merchants that accept cUSD is crucial in expanding choices for beneficiaries and increasing the value of blockchain-powered aid delivery. It can also help support local economies where the beneficiaries are located by increasing the circulation of money. Moreover, there is still a lot to learn about the value of a blockchain-based digital wallet to merchants. In particular, merchants also face the challenges of transitioning to a digital model given the cultural preference for cash and the costs of adoption. Merchants need support in understanding the technology solution. They also need assistance in integrating Valora to their operations and giving consumers a seamless buying experience. This will ultimately encourage frequent usage, sustain wider adoption and boost the multiplier effect of aid in local communities.



Profile:

Mau Aguasin, Managing Director
Monterey Meatshop BF Homes Branch

Since 2013, Mau has been directing the operations of Monterey BF Resort meat shop, a franchise that serves 10,000 households in the City of Las Pinas. When COVID-19 hit, she was forced to research and be more open to innovative solutions in the market for contactless and electronic payments on top of cash and credit cards.

"We partnered with cLabs for this project to experience and to coach our staff with alternatives to safer and faster transactions. We want to offer more options to our consumers especially now in this pandemic. We are also happy to participate in this relief program and extend our services to families hardly hit by the crisis."

She noted that for Valora to add value to merchants, it should offer a safe and reliable service that avoids the issues encountered with cash or credit card payments. Ease of use is also key. Her staff was able to pick up the instructions to use Valora quickly and appreciated the convenience it offers.

"Today, it is more than just the brand. It is also about customer service." Mau noted that the key to a wider adoption of digital wallets like Valora is by making sure that the technology empowers consumers with access and choice.

The Future of Blockchain-Powered Humanitarian Aid

This project confirmed the potential of blockchain technology to make traditional aid delivery more efficient, cost-effective, and transparent. However, we recognize that a lot needs to be done in order to fully realize the benefits of blockchains like Celo.

Many organizations are reluctant to adopt new technologies for understandable reasons. Many institutions have developed complex processes based on existing financial systems making the costs of switching very high. And since aid beneficiaries tend to be among the most vulnerable and least empowered extra caution around introducing new technologies is warranted.

However, we believe that as technologies like Celo evolve the benefits of a blockchain based solution will continue to grow. We recommend that aid organizations take a hard look at their processes and consider how new technologies could revolutionize the way they work.

For more information about the state of distributed ledger technology and the Celo Foundation recommendations for organizations interested in further exploration, we invite you to read our policy paper.

Annexes

Disbursement Dashboard - Technical Notes

cLabs developed a disbursement dashboard for the project to assist Grameen Foundation to transfer cUSD to hundreds of wallets efficiently and simultaneously. The blockchain-powered dashboard also served as a simple tool for tracking, monitoring, and reporting on transfers and balances.

The main feature of the dashboard is its ability to generate a temporary wallet for holding funds, sometimes called a hot wallet. The hot wallet is transferred funds from the user's ledger or vault for the duration of the disbursement. The dashboard also includes prompts to save the hot wallet's seed phrase in case of unexpected interruption. Finally, the dashboard includes a quality of life feature that precomputes transaction hashes upfront to ensure that the entity managing the disbursement does not double spend.

The realtime and resumable disbursement page with summaries allows the user to track the progress of transfer for each of the individual wallets. Once the disbursement is completed, any remaining funds are sent back to the ledger or vault of the entity safely and automatically. This offers a secure and better user experience, even for big disbursement volumes.

The dashboard also has an entity management screen that can vary in terms of access for different stakeholders involved in the project. It also has an entity overview screen that allows the user to manage and monitor the activity of individual wallets. Finally, a Sankey diagram shows a high level overview of transaction movement.

Operational Flow:

1. Names and account addresses of beneficiary entities are added to the dashboard by uploading a CSV.
2. A disbursement is created with a new hot wallet.
3. Funds are transferred from the sender's Anchorage vault/ledger to the hot wallet.
4. Once the funds arrive at the hot wallet, the user begins disbursement. The amount is sent to beneficiaries one by one.
5. Unused funds are returned to the sender's vault/ledger.

Tech Stack



Beam & Go Integration - Technical Notes

Tech Stack



Beam&Go built a customer-centric microsite (grameen.beamandgo.com) that catered to the beneficiaries that received their aid through the Valora app. In this marketplace, they selected from over 30 brands of supermarkets and pharmacies nationwide and were sent digital vouchers for easy redemption of goods and medicine.

The integration of the Beam&Go microsite with the Valora app has the following key components:

- Beam&Go ran a full node on Celo and used Eksportisto as an indexing service to check the node for transactions.
- Every transaction in the microsite generates a unique QR code, and a button in the payment page opens Valora.
- Transactions were populated with the comment from the QR code. The Valora user sees a pre-filled prompt with the amount and comments and only needs to click Send to complete the payment.
- Through transaction comments, metadata related to the purchase were transferred with every transaction. Eksportisto was used to surface these transfers with the associated metadata, allowing Beam&Go to save the transaction in their database and map it to the user. The beneficiary sees a confirmation page and receives an SMS notification about the successful transaction.
- Beam&Go used a ledger for self-custody, and then converted the cUSD with Altonomy via Celo CLI.

Process

1

Browse site on desktop or mobile, choose product: i) Mobile Load, ii) Delivery Grocery, iii) Store Voucher

DELIVERED TO YOUR HOME

Fresh Chop suey Set PHP 629.00 Pinoy Almsal Pack PHP 939.00 Mega Grocery Pack PHP 4,400.00

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SUPERMARKET VOUCHERS

Metro Gaisano Superstore GIFT CERTIFICATE VOUCHER PHP 500	ultra mega GIFT CERTIFICATE VOUCHER PHP 500	GIFT CERTIFICATE VOUCHER PHP 500
Metro Gaisano Superstore PHP 500.00	ultra mega Superstore PHP 500.00	Super 8 GC PHP 500.00

● ●

2

Proceed to Checkout

CHECKOUT

ITEM	AMOUNT
Fresh Chop suey Set	PHP 629.00
Convenience Fee	PHP 50.00
CART TOTAL	PHP 679.00
Payment Fee	PHP 0.00
TOTAL PAYMENT	PHP 679.00

celo Pay

CANCEL ORDER

3

Pay with Valora

Pay with

OPEN VALORA APP

Kung kailangan ng tulong sa paggamit ng Valora App, please call:
Metro Manila: 8639-6734 and 8639-6735
Cebu City: 8639-6740

