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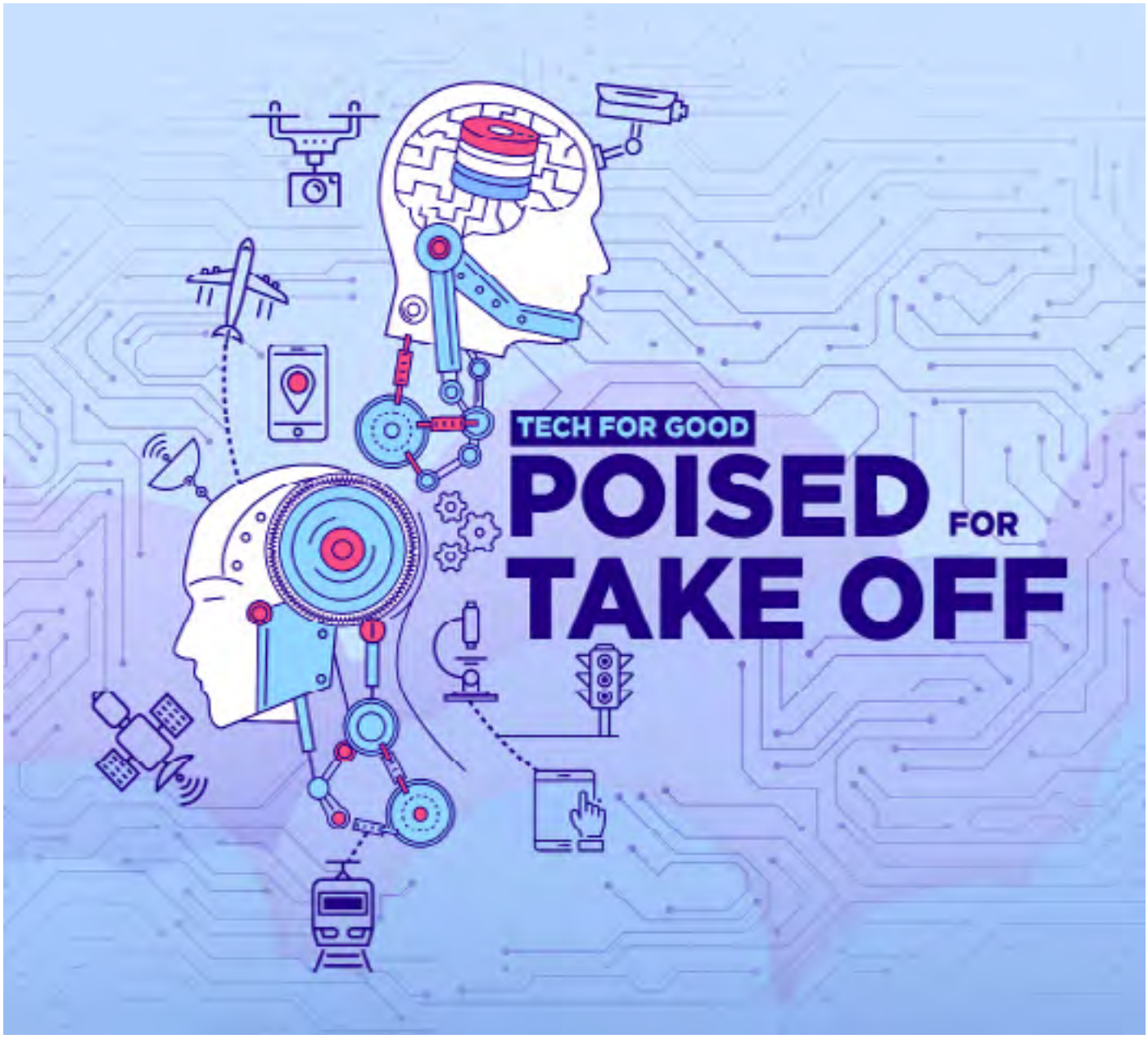

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Contact: Ms. Vicky Vu
Email: vicky.vu@ubm.com

Malaysia Office
Tel: +603 2176 8788
Contact: Ms. Haza
Email: haza.tukimin@ubm.com

International Sales Enquiries
Tel: +603 2176 8788
Contact: Ms. Vicky Tan
Email: vicky.tan@ubm.com

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47 HACK THAT: COMMUNITY-LED SOLUTIONS THE WAY FORWARD?

When a non-profit has a tech problem that can be solved, traditionally, a hackathon has stepped in. But in the age of Industry 4.0, can technology be used to empower the community to innovate internally? Shivranjana Rathore finds one likely solution.

Editor's Note

Dear reader,

Industry 4.0 is here, if the internet is to be believed. The revolution, as it is being called, seems to be a seamless transition from the digital controls of the third; yet, it stands alone for its near-complete takeover by machines and data. What seemed like evidence of Humankind's mastery over machines in the first three instalments increasingly looks like the setting of a sci-fi book, with machines taking over humans just one step away.

One salient feature of Industry 4.0 is its immense scale and therein also lies its potential within the social sector. Impact is no longer in the thousands but in the millions, powered by the sheer interconnectedness that technology spawns.

A 2017 report from the Business & Sustainable Development Commission pegs the "market opportunity" of the Sustainable Development Goals (SDGs) at USD $12 trillion. A significant chunk of this, it is estimated, will come from technology-enabled innovations and solutions. Blockchain technology has entered the conversation, staking claim to a decentralized system of finance and processes that will transform the way aid is disbursed. The ordinarily-named Internet of Things is a virtual hold-all for technologies not captured by narrower nomenclature, and it too promises to deliver solutions toward achieving the SDGs. Countries are creating digital policies, proactively formulating rules for the use of drones in agriculture, and looking at ways to stay on top of technology.

Amidst all this hullabaloo lies the typical social organisation: mostly befuddled by all the hype; yet curious for the potential to completely transform their work. Many of them have not seen the impact of technology except in their online fundraising efforts. Like a scene behind a frosted glass, the contours of Tech for Good are visible; yet, the exact mechanics of it still seem a bit vague for many practitioners.

In this issue, we try and take a look at some of the specifics of Technology for Good: how non-profits can (and have) adopted technology, when we need to curb our enthusiasm (and how) and the questions that must be posed even as we adopt a particular technology.

Warm regards,

Meera Rajagopalan
Managing Editor

iMPACT

Publisher & CEO
Sreenivas Narayanan

Managing Editor
Meera Rajagopalan

Editorial Associate
Ian Jamotillo

Editorial Staff
Shivranjana Rathore
Nandhini Shanmugham

Creative Director
Kelvin Tee

Senior Multimedia Designer
Joseph Lontoc
Nicole de Leon

Multimedia Designer
Eugine Nisperos
Roberto Guerrero

Director of Business Development
Aru David

Marketing Team
Parth Gautam
Cynthia Tram
Riza Banaag

Web Administrator
Chris Daria

For Subscriptions
subscribe@asianngo.org

For Editorial
editor@asianngo.org

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1 Gender Spectrum Conference
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The Gender Spectrum Conference will gather youth-serving professionals to discuss the most up-to-date information and best practices for serving gender-expansive children and youth.

2 Singapore Water Week 2018
Singapore | July 8-12

Singapore Water Week is a global platform to share and co-create innovative water solutions. The biennial event unites stakeholders from the global water industry to share best practices and showcase the latest technologies and tap business opportunities.

3 Future Food Tech Innovation and Investment
New York, USA | July 10-11

Organised by Rethink Events Ltd, the Future Food Tech Innovation Investment: From Farm to Fork is a conference that will cover several advances and improvements related to sustainability in the food supply chain.

4 Mastering Public Private Partnerships
Singapore | July 17-20

Private Public Partnerships (PPP) Masterclass is a 4-day event that is specially developed for professionals and organisations who are looking to get involved in PPP Projects or are in their early stages of PPP programs. The event aims to help participants understand how to plan, develop, and execute effective PPP projects.

5 Conference on Urban Development and Economics in the Developing World
Shanghai, China | August 7-8

The Conference on Urban Development and Economics in the Developing World aims to promote the exchange of new research and ideas among researchers, policy makers, and development practitioners on issues such as urbanisation, its relation to economic development, and making cities more efficient and productive.

6 International Conference on Teacher Education
Quezon City, Philippines | August 23-25

With the theme "Educational Equity through Inclusion", the International Conference on Teacher Education will focus on the role of education as an agent for social cohesion, equity and development that is responsible for breaking barriers among families, schools, and communities.

7 International Conference on Offshore Renewable Energy
Glasgow, United Kingdom | August 26-28

The International Conference on Offshore Renewable Energy will tackle issues in the energy sector and the developments applied to various offshore renewable energy projects.

8 National Education Summit
Melbourne, Australia | August 31-September 1

Organised by the IEC Group Pty Ltd, the National Education Summit reviews the best digital classroom practices and the use of technology in student learning and engagement.

9 Seamless Vietnam
Vietnam | September 4-5

Seamless Vietnam sparks new ideas and inspires the audience to think differently by converging the brightest minds across the payments, ecommerce and retail industries.

10 The 6th International Conference on Hospitality and Tourism Management
Kandy, Sri Lanka | September 14-15

The 6th International Conference on Hospitality and Tourism Management also known as "ICOHT 2018" will provide an interactive and dynamic platform where participants can share thoughts, exchange ideas and listen to renowned keynote speakers through dialogues on how to better utilise research outputs for the benefit of the industry.

11 2018 Asian Evaluation Week
Chengdu, China | September 10-14

Co-sponsored by the People's Republic of China (PRC), Ministry of Finance Asia-Pacific Finance and Development Institute and ADB's Independent Evaluation Department, the 2018 Asian Evaluation Week aims to provide a venue for knowledge sharing on the latest and cutting edge ideas on evaluation within Asia, and between Asia and other regions of the world.

12 Asia Power Week
Jakarta, Indonesia | September 18-20

Asia Power Week is the leading force in delivering a platform for the power industry to discuss the challenges facing the power industry and share solutions for advancing Asia's energy future.

13 Water Innovation Summit
New Delhi, India | September 26-27

The Water Innovation Summit will cover topics on water innovation, treatment, and management, and will bring together stakeholders across the world to discuss economic and social growth in the context of water scarcity.

To include your event in this section, please email details of the event, in the format above, including website, if any, to **editor@asianngo.org**

World Health Assembly Targets Universal Health Coverage

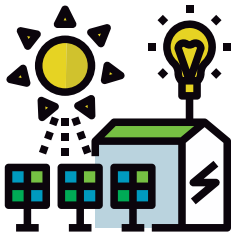
The 71st World Health Assembly held 21-26 May in Geneva adopted a five-year strategic plan to speed up SDG targets under Goal 3 (Good Health and Wellbeing) with a focus on strengthening universal health coverage and supporting research against non-communicable diseases (NCDs).

Under the name "Triple Billion" target, the five-year strategic plan sets three targets to be achieved by 2030: extending universal health coverage, ensuring protection from health emergencies, and promoting better health to 1 billion more people.

The assembly, which marked the 40th anniversary of the International Conference on Primary Health Care also highlighted the rising threat of non-communicable diseases (NCDs) such as diabetes, cardiovascular diseases, and cancer, and urged the international community to reduce premature death from NCDs by one-third, by 2030.

Infectious diseases such as cholera were also mentioned, with members urging affected countries to implement strategies to reduce cholera deaths by 90% by 2030. According to the World Health Organisation (WHO), an estimated 1.3 million to 4 million cases of cholera, and 143,000 fatalities, are reported worldwide.

Renewable Energy Market Trumps Official Resistance



Despite the U.S. president's call for fossil fuel revival, renewable energy projects are growing in the U.S. thanks to technology giants like Apple and Google.

According to the Federal Energy Regulatory Commission (FERC), 95% of the total energy capacity during the first quarter of 2018 came from solar, wind, geothermal, and hydropower sources, with only 3% from natural gas. In contrast, 33% of energy capacity came from natural gas during the first quarter of 2017 while 61% from renewable energy.

During Trump's first year as president, more than 30 expensive environmental regulations were relaxed in favour of fossil fuel and coal plants. This is in line with the administration's desire to make the U.S. the largest fossil fuel exporter in the world. However, support for renewable energy is making big waves in response to the ongoing action plan against climate change.

Apple, Google, and Facebook are among the companies that signed an agreement supporting the development of 2.8 gigawatts of new renewable power in the United States. Telecom firms such as T-Mobile and AT&T, food and drink giant Nestlé, and discount store retailer Target are some of the largest renewable energy buyers.

South Korea Pledges $5 billion to Africa

South Korea has announced $5 billion in financial aid to African nations following the Ministerial Roundtable of the Korea-Africa Economic Cooperation (KOAFEC) conference held in conjunction with African Development Bank's (AfDB) 53rd Annual Meeting held May 21-25.

As part of a joint declaration and economic cooperation action plan adopted at the KOAFEC, the $5 billion aid aims to boost the region for two years starting 2019. It will focus on investments such as developing rural areas, expanding infrastructure, combating climate change, and boosting manpower.

According to Deputy Prime Minister of Korea, Kim Dong-yeon, the fund will allow for South Korea to bring its expertise in technology and infrastructure to the African region while paving the way for future investments into its economy.

In line with the $5 billion assistance, the South Korean government and AfDB also signed an agreement that promises to deliver up to $600 million to the region's energy sector. This pledge comes alongside expanded South Korean-African business relations.

Asia-Pacific Falling Behind SDGs: UN

Almost two-thirds of the targets established by the Sustainable Development Goals (SDGs) are not being met by the Asia-Pacific region as revealed by the latest report released by the United Nations.

According to the report, the Asia-Pacific region has fallen behind on 37 out of 57 sustainable development targets, with the lowest growth noted on issues pertaining to inequality, oceans and forests, and climate change.

Since 2015, the ocean health of the region has drastically declined, with more plastic particles found on different bodies of water. This placed a significant toll on Goal 14 (Life Below Water) progress of the Asia-Pacific. Additionally, Asian countries such as China, Indonesia, Philippines, Vietnam and Sri Lanka are named top five plastic polluters.

Continuous deforestation from extractive industries as well as the declining protection of conserved forests and other natural resources continue to aggravate the low development in SDG Goal 15 (Life on Land).

"The health of the region's oceans has deteriorated since 2015. There has been no progress towards protecting, restoring and promoting the sustainable use of terrestrial ecosystems. The protection of forests and the reduction in the degradation of natural habitats has weakened at a regional level," Dr. Shamshad Akhtar, UN under-secretary-general said.

Despite falling short on environmental targets, Asia-Pacific performed well on Goal 14 (Quality Education) and is likely to meet the target by 2030, according to the report.

Asia Pacific: SDGs with the Most Progress

We all have **good intentions** to do good and help others; however, we are human, and we **forget** sometimes. So let's be positive about the fact [that] mobile can **help us remember** our desire to do good.

Paul Rowland
President of I Can Go Without, an app that creates small pledges that are converted into donations, in an interview with USA Today

When Henry Ford made cheap, reliable cars, people said, 'Nah, what's wrong with a horse?' That was a huge bet he made, and it worked.

Elon Musk
CEO of Tesla Inc.

This waste of talent is **senseless** in a world where many employers have trouble filling skilled positions.

Sayre Nyce
Executive director of Talent Beyond Boundaries, on refugee employment

How do you choose who to help, when you can't help them all?

Jim Estill
CEO of multimillion-dollar home appliance firm Danby, and a social entrepreneur who supports a town resettlement of 58 Syrian refugee families in Canada

Giving does not take away from your wealth; it adds value to it.

Alexandre Mars
Founded Epic Foundation, a non-profit that bridges the gap between donors and organisations supporting children and youth

Some people see **innovation as change**, but we have never really seen it like that. **It's making things better.**

Tim Cook
CEO of Apple Inc.

The goal of philanthropy is to be a **laboratory of innovation for breakthrough work**; to have that **willingness** to think about things.

Bill Gates
Founder of Microsoft and Bill and Melinda Gates Foundation

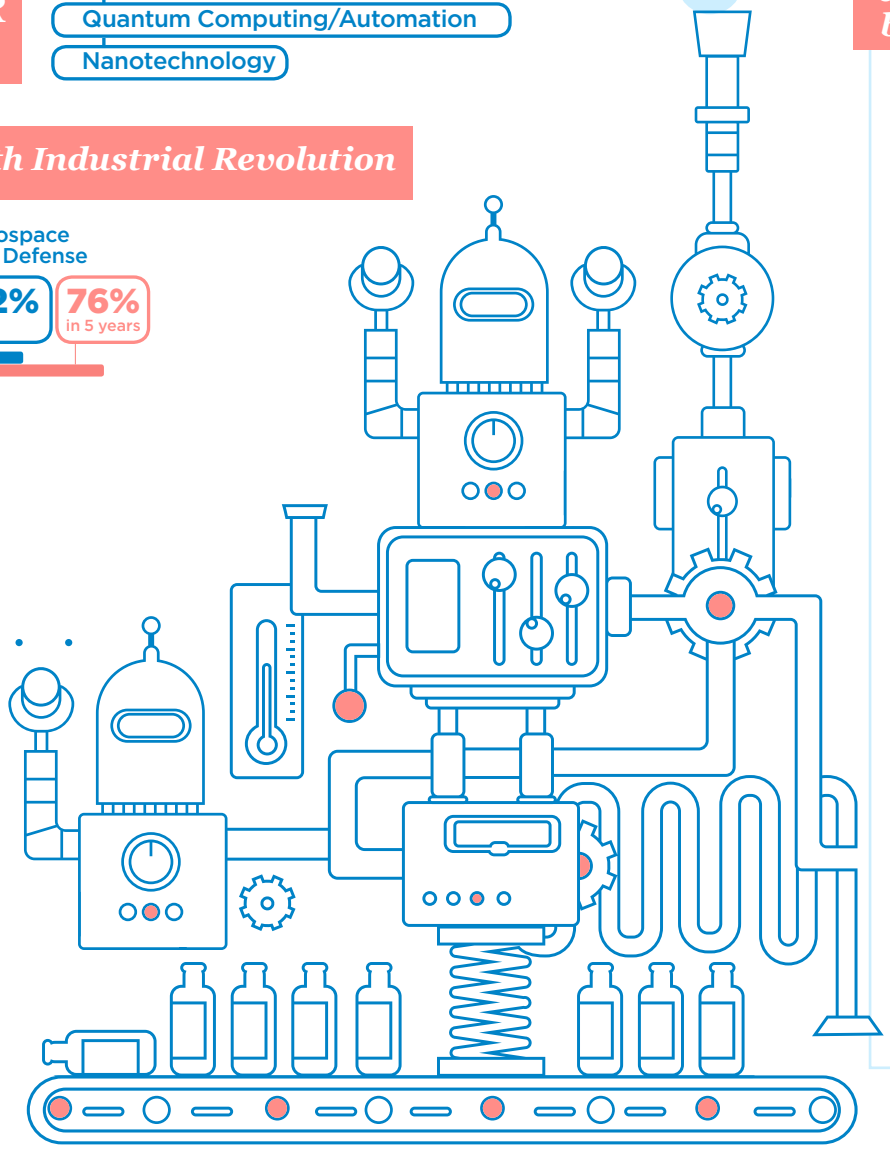
The Horrors & Wonders of the 4th Industrial Revolution

The Main Component of the 4th IR includes:

- Robotics
- Artificial Intelligence/Virtual Reality
- Quantum Computing/Automation
- Nanotechnology

Adoption of 4th Industrial Revolution

	now	in 5 years
Electronics	45%	77%
Aerospace and Defense	32%	76%
Industrial Manufacturing	35%	76%
Transportation and Logistics	28%	71%
Engineering and Construction	30%	69%
Automotive	41%	65%
Metals	31%	62%



Jobs Threatened by Automation

- Legal Secretaries and Paralegals **97.6%**
- Bookkeepers and Certified Accountants **97%**
- Local Government and Administrative Workers **96.8%**
- Salespersons and Retail Assistants **95.1%**
- Cashiers **90%**
- Postal Workers and Couriers **85.8%**
- Delivery and Taxi Drivers **56.8%**
- Interpreters and Translators **32%**

AR and VR in the 4th Industrial World

Companies using Virtual Reality (VR) **37%**

Companies using Augmented Reality (AR) **39%**

48% are considering adopting VR
23% in the next three years

67% are considering adopting AR
30% in the next three years

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Soon, Hail an Electric Plane!

Flying cars were the staple in sci-fi films, with the promise of freedom from traffic, combined with the promise of speed proving irresistible. Now, a California-based aviation company is all set to make that a reality, at least for local residents.

Joby Aviation announced a 5-seater electric aircraft, envisaged as an alternative to existing land transport. Dubbed as "air taxi", this all-electrical vehicle take-off and landing (eVTOL) passenger aircraft is a cross between a drone and a small plane, capable of flying at least 150 miles on a single charge. What's more, Joby claims it's 100 times quieter than conventional aircraft during takeoff and landing.

Supported by a fund worth US$100 million led by Toyota and Intel, the prototype aircraft named Rachel by the aviation company is meant to solve the top two problems brought by land transportation—air pollution and congestion. Electric motors, advanced batteries and sophisticated control software enable the air taxi promise better urban air quality, noise mitigation, and energy security.

The company has said that the aircraft is being groomed to function as a ride-hailing service and will cost the same as an Uber ride.

The Face of Modern Security

In an effort to promote high-level security and safety, Singapore announced its plans to equip surveillance cameras with facial recognition technology on all 110,000 lampposts in the country.

Under the pilot name "Lamppost-as-a-Platform" (LaaP), the project scheduled for 2019 will install camera sensors that support backend facial recognition software to lampposts and allow for crowd analytics and follow-up investigations during an incident of crime or terrorism.

Federal agency GovTech runs the program, which is intended to be part of Singapore's Smart Nation project—a collective effort of the country to support better living through the use of smart applications.

The LaaP program will be the first to provide facial recognition technology to camera sensors. While groups expressed security and privacy concerns over the initiative, questions around whether the cameras would be active round-the-clock (or only during emergencies) also persist.

Among other plans of the Singapore government are sensors on lampposts to monitor air quality and water levels, and for footfall data to aid urban and transport planning.

Vested Interests

Move over, Paw Patrol, there's a new group of crime-fighting dogs on the scene: The Watchdogs. An initiative in Thailand aims to alter negative perceptions about stray dogs by turning them into mobile surveillance units. The program, which is still in pilot mode, uses the dogs' reaction to something alien on their turf. Dogs wear vests that feature cameras activated by aggressive barking, with a live feed sent to law enforcement. The concept was developed by a team from Cheil Advertising Agency.

Treasure from Trash

Reverse vending machine (RVM) company KLEAN, and fin-tech firm HelloGold may have just struck gold, while taking steps to solve Malaysia's recycling problem.

For every plastic bottle or aluminum can deposited, a new machine deposits 10 Malaysian ringgits or U.S. 2.5¢ worth of gold through a companion app. Not only does this promote an interactive way for Malaysians to dispose waste, but it also increases the country's low recycling rate.

The HelloGold app helps users register their details, and credits are redeemable in various forms including gold and food vouchers. The gold is stored in Singapore, but is redeemable.

While this isn't the first RVM in the world, the Malaysian RVM is the only one that offers real gold in exchange for trash, compared to the traditional cash or coupon vended.

A total of 40 machines will be installed across Kuala Lumpur in July, while 500 machines are expected to be launched in key locations across the country by the end of the year. HelloGold has already expressed expanding to countries such as South Africa, where a large informal plastic recycling economy is developing rapidly.

Altered Carbon

Greenhouse gases may be building up, but soon, they may simply help construct buildings. Scientists have found a way to convert greenhouse gas emissions into building materials—through carbon capture and conversion technology.

With carbon capture, CO_2 emissions are stored underground, but with carbon conversion, CO_2 isn't just stored but is also converted into usable compounds.

The technology, developed by a company from the University of Aberdeen, U.K., works by dissolving the CO_2 in dilute alkali and converting it into carbonate ions and mixing them with calcium or magnesium. The resultant Precipitated Calcium Carbonate (PCC) or Precipitated Magnesium Carbonate (PMC) can be used in various applications: for example, production of paper, paints and adhesives. In addition, PMCs can be cemented to construct buildings, which scientists claim are non-toxic, water resistant, fireproof, and possess good thermal and acoustic insulation properties.

The carbon capture and conversion technology from University of Aberdeen is a finalist for the NRG COSIA Carbon XPRIZE, a competition aimed to accelerate the development of technologies that convert CO_2 into functional products.

Have a Heart!

A new smartphone app aims to connect first responders to cardiac arrest victims before professional emergency aid arrives, to enable immediate CPR.

Developed by the European Heart Rhythm Association, the First Responder app locates trained rescuers closest to the emergency through integration of existing emergency systems with GPS tracking technology and sends their smartphones a notification about the location of the emergency. The first to respond is given directions to the victim.

Heart disease is the leading cause of death worldwide with 17.7 million fatalities each year, according to the World Health Organisation.

Cardiac arrest victims in Lubeck, Germany were the first to test the app with 600 rescuers sent to perform emergency service. Results revealed that 36 percent of rescuers arrived three minutes before emergency services.

Through the app, the developers aim to spread awareness on cardiac arrest and raise bystander resuscitation rates to 70-90%. Plans are also afoot to extend the service to emergency service agencies such as fire departments and hospitals.

The Skype is the Limit

A project by an Indian non-profit organisation, eVidyaloka, helps rural and urban children connect through technology, enabling them to come up with interesting solutions to social challenges, finds **Nandhini Shanmugham**.

Thirteen-year-old Palak Kumari is the only girl in her class. In the past few years, she has watched as her friends dropped out from school, year after year. So when eVidyaloka's National Student Innovation Challenge (NSIC) came along–encouraging students to use technology as a platform to address a Sustainable Development Goal of their choice–Palak picked Goal No. 6–Clean Water & Sanitation. Why? Because poor water hygiene and sanitation facilities have led to her friends dropping out of her rural school in Koymara, in the Indian state of Jharkhand.

According to a 2016 report by philanthropy foundation Dasra and Bank of America, in both urban and rural India, over 50% of girls do not have access to adequate sanitation facilities. The lack of proper sanitation facilities is also a reason for 23% of girls—girls like Palak's friends—dropping out of school on reaching puberty.

Started in 2017, NSIC, an initiative of eVidyaloka, an Indian non-profit using technology as a tool to work on the education puzzle, is a unique event that celebrates the spirit of connecting rural and urban India. It aims at nurturing the talent of students around critical thinking, leadership, and creative problem solving in a collaborative way. Making this possible is eVidyaloka's comprehensive technology platform.

A rural school is paired with an urban school, and each urban-rural team, guided by a mentor, attempts to understand an SDG goal of their choice, and develop ways to address it. Over a month, rural students collaborate with their urban counterparts on the e-Vidyaloka platform through Skype to understand their selected SDGs, the problems, challenges, and ways to address them. Their findings and solutions are presented through a project submission either in the form of a document, video, or PPT. Twenty-nine teams across six states in India participated in the 2017 NSIC program.

Palak's Government School partnered with the DAV School, Sreshtha Vihar, New Delhi. Her school has one of 130 digital classrooms that eVidyaloka has set up in rural schools across India.

For all stakeholders - urban and rural school students, teachers, and mentors – NSIC was an eye opener.

While the DAV team was keen on, and eventually developed, a prototype that enables waste water from washbasins to flush toilets and a small sensor controlled cleaning device to mop and clean bathroom floors, Sarika Attri, teacher at DAV, says, "Futuristic ideas like ours, we realised, would only cater to the needs of a few; the larger issue, however, is absence of basic facilities which the Koymara school is grappling with." Her thoughts are echoed by Koymara School's mentor Sriranjani.

"Students in villages remain ignorant of practices as simple as washing hands. NSIC gave students an opportunity to take stock of the current sanitation practices in their village and how they could address it," she says.

What is interesting to note is how both urban and rural students could share best practices from their worlds with each other in a way that was meaningful, although the exchange was skewed towards the direction of urban to rural children.

When the DAV school team heard about the dismal condition of sanitation in the Koymara Government School, they introduced to their rural friends toilet cleaning agents, exchanged information on water-borne diseases and infections, and got their school doctor to talk about hygiene practices.

Similarly, when it came to SDG Goal No. 12 – Responsible Consumption – rural students were able to enlighten their urban friends with some agriculture insights. It was through their friends Giridas, Pasha and Anusha, studying at the Madanpalle Government School in the neighbouring state of Andhra Pradesh did urban children first hear of crop rotation and its benefits. Intrigued to know more, the urban team researched extensively on the subject and put together a four-way crop rotation demonstration model, showing

> "Technology has not only enabled and facilitated the conversations and interactions among the children, but has also brought in a huge amount of zeal and eagerness to pursue these type of projects."
>
> **Swapna Ramkumar**
> NSIC coordinator
> eVidyaloka

> I strongly feel that having more of these programs will help shrink the gap between urban and rural communities. This will certainly pave way for children from both sides to empathise with each other's lifestyle and value what they possess."
>
> **Swapna Ramkumar**
> NSIC coordinator
> eVidyaloka

how the old technique can help in pest control, prevent soil erosion, treat water pollution, suppress weeds, and minimise greenhouse gas emissions.

The takeaway for participants has been aplenty; some out-of-the box ideas sprang up; positive changes initiated and new friendships formed. But the "real star" of the program is technology.

"In the absence of which," says NSIC coordinator Swapna Ramkumar, "the entire model would have remained just a dream. Technology has not only enabled and facilitated the conversations and interactions among the children, but has also brought in a huge amount of zeal and eagerness to pursue these type of projects."

The technology-backed initiative has certainly given "wings to the imagination of the students," says Attri, who feels that the since this was also a tech-based initiative, students and mentors had the "complete freedom to cover the project in ways they wanted to, be it surveys, charts, demo models, and videos." Because no matter how they captured the information, they could all be shared online.

But what next?

Children have created awareness in their neighbourhoods, says Ramkumar. Palak and her teammates Ananth Kumar and Uday Kumar have, after the conclusion of the NSIC program, conducted door-to-door awareness of good sanitation practices and water-borne diseases among 20 households. Students at the Hanumakoppa Government School in Karnataka have requested their headmaster for water filters in the school.

"I strongly feel that having more of these programs will help shrink the gap between urban and rural communities. This will certainly pave the way for children from both sides to empathise with each other's lifestyle and value what they possess," says Ramkumar. And maybe one day Palak will not be the only girl student in her class.

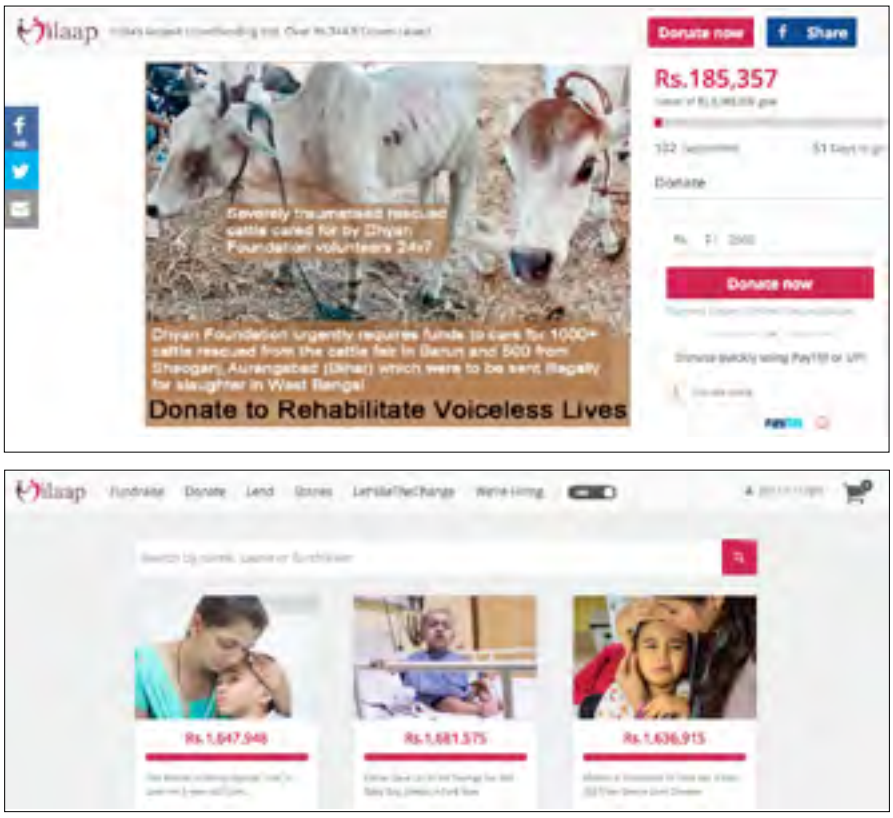
The Rise of Crowdfunding for Healthcare

By Shivranjana Rathore

Crowdfunding in healthcare is a great way to provide relief in an emergency, and for uninsured medical expenses where public healthcare systems break down. However, by its very emotional appeal, does it also come at the cost of projects that have the potential for greater social impact? Does it take away from systemic issues of public healthcare?

On a crowdfunding site, a child with a swollen stomach stares ahead, with an appeal to help save his life. A second child is held by his mother, and a third is sitting within the confines of a hospital bed. Row after row features images of people (mostly children) in hospital beds, requiring treatment for their medical malaise (mostly cancer). The stories accompanying them are heart-wrenching, reflective of all kinds of problems in society: social, gender, substance abuse, and uncaring healthcare systems.

What one notices, however, is that the younger the child, the more likely their campaign is funded fully. Campaigns for amounts as high as



> It is worrisome if one might come to see it (crowdfunding) as a solution to, rather than a sign of, our failure to guarantee universal access to medical care."

Jeremy Snyder
Associate professor of health sciences,
Simon Fraser University, B.C., Canada

USD 50,000-100,000 are met within a couple of weeks. While it's not true across the board, campaigns for adults and a less "immediate" need—say, education—lag behind.

For instance, close to half of the campaigns on the YouCaring website, a leader in crowdfunding, are for the cause of medical expenses, followed by pets and animals, ahead of education, non-profits, and community projects. The company said roughly USD 400 million was raised last year, with cancer treatment campaigns growing the fastest.

In today's visual world with decreasing attention spans, does crowdfunding's appeal lie solely in instant gratification for donors?

Jeremy Snyder, associate professor of health sciences at Simon Fraser University in Canada, says that the problem with crowdfunding is that it tends to distribute funds according to market norms. This means that it advantages children, photogenic persons, and those with the ability to communicate well and likely disadvantages those facing discrimination, with stigmatised medical conditions (say, lung cancer), and disadvantaged social groups.

Reflective of this attitude at a macro level, in a 1992 Time essay, Walter Isaacson asked, in the context of the U.S. sending troops to Somalia, based on what he described a wave of sentimentality, "Will the world end up rescuing Somalia while ignoring the Sudan mainly because the former proves more photogenic?"

Anoj Vishwanathan, founder, India-based Milaap, agrees this is one issue Milaap constantly grapples with, but credits the shift to donor preferences. In fact, Milaap started off in 2010 as a micro-lending site to build rural entrepreneurship. Today,

more than 80% of the appeals are for medical needs.

One of Milaap's solutions is to consciously promote worthy causes that seem to be lagging behind. In fact, the site features, amongst a sea of medical campaigns, two lone rows of non-medical campaigns, promoted to enable an increasingly elusive balance.

However, it does not change the fact that the greater focus on medical crowdfunding continues to reinstate biases through the commodification of suffering, pointing towards, and perhaps feeding, a growing system of injustice, while distracting from larger systemic problems. In addressing this distraction may lie the solution to crowdfunding's dominance by medical issues, which, too, is likely unsustainable at the current rate of growth.

To understand the phenomenon, Snyder says, we need to look at its origins in the U.S. as a solution to insurance gaps, particularly for cancer, and in some cases, to try experimental treatments not covered by insurance. In a suffering healthcare system, this does seem to be a source of temporary relief.

Snyder acknowledges that, but cautions against complacency, "… it is worrisome if one might come to see it as a solution to, rather than a sign of, our failure to guarantee universal access to medical care."

There are alternative uses of the platforms to enable breaking away from the model that promotes bias. Watsi, for example, is a platform that uses crowdfunding to finance surgeries while using the same technology to provide community-based health coverage for 8,112 people (as of July 21, 2018) in rural Uganda.

Crowdfunding platforms are doing their bit. Ketto branches out to use crowdfunding for larger social impact by helping close to 4,000 non-profit organisations raise funds, and Milaap is working with partner hospitals to enable cutting down of the final payment.

Viswanathan is trying to bring in foundations set up by corporate entities to enable subsidy of expensive tertiary treatments. According to him, "the ultimate solution lies in smarter usage of subsidies and funds and crowdfunding wherever required, along with developing better financial instruments, with health insurance being a key instrument in that aspect."

The other solution, he says, might lie in competitive pricing of treatment, where the pricing of the components of treatment are more transparent, leading to better decision-making.

However, these moves, while aiming to be inclusive, are still small-scale and large-scale impact will require a move toward universal medical care. In the meantime, photos will attract clicks, and that might be the best thing that has happened to the families of the children lying in hospital beds.

"The ultimate solution lies in smarter usage of subsidies and funds and crowdfunding wherever required, along with developing better financial instruments, with health insurance being a key instrument in that aspect."

Anoj Viswanathan
Founder
Milaap

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Can Start-Up Mode Founders Lead Organisations to Scale?

Not necessarily, writes Kriss Deiglmeier. When social innovations are ready for growth, leaders need to ask themselves whether they possess the skill sets required to take the organisation to scale.

Each social innovation begins with a vision, and, most likely, a visionary, eager to make an impact and willing to go to great lengths and sacrifice to do so. As an idea evolves, it often expands; there are new requirements of the organisation that has grown around it, as well as new demands on its leaders.

My colleagues and I recently studied the path that ten social innovations took in order to scale, and the challenges that they faced along the way. We based our work on research and practices over the past decade at Stanford University's Center for Social Innovation; at SI-Drive, a European Union-based initiative to advance social innovation on a global scale; and at Tides, a philanthropic partner and non-profit accelerator that works with both funders and changemakers across the world. We found that in every case, several troubling barriers appeared between the piloting and scaling phases of growth. This created a "stagnation chasm," where even the best ideas can languish before moving forward to deliver results. During this difficult period of transition, organisations are often faced with profound challenges, chief among them a shift in what is required to adequately lead the organisation.

It is a hard truth that the very necessary skills— the personal charisma and resourcefulness, for example—that serve an entrepreneur well during the ideation and piloting phase are not necessarily the ones most important for fostering a team, galvanizing a board of directors, and brokering and sustaining successful partnerships. With growth also comes additional complexity in the realms of human resources and infrastructure, cross-sector collaboration, and organisation talent development. All

Kriss Deiglmeier is the CEO of Tides, a global foundation and social venture accelerator focused on shared prosperity and social justice. In 2016, she was named one of the "50 Most Influential Women in Philanthropy" by Philanthropy Insider.

these areas become more essential to scale a social innovation.

Given all of these essential areas, if the leader cannot make this skill-level transition from ideation and piloting to organisational growth, the leader needs to move to another role or leave the organisation. There are rare cases of founders who understand that they don't have the skill set required to move their organisation ahead and who hire a CEO to replace themselves. More often, leadership requires a significant group effort that includes difficult conversations and creative solutions. In either case, here are the attributes that we believe are essential to leaders of social innovation when getting across the stagnation chasm:

Systems Thinking: When you are in start-up mode, you need to be laser focused. But a social innovator must think and act beyond responding to targeted problems, events or needs. Systems thinking enables leaders to consider the interplay of factors and forces relative to a broad ecosystem—and to make unprecedented connections in the quest for more effective solutions.

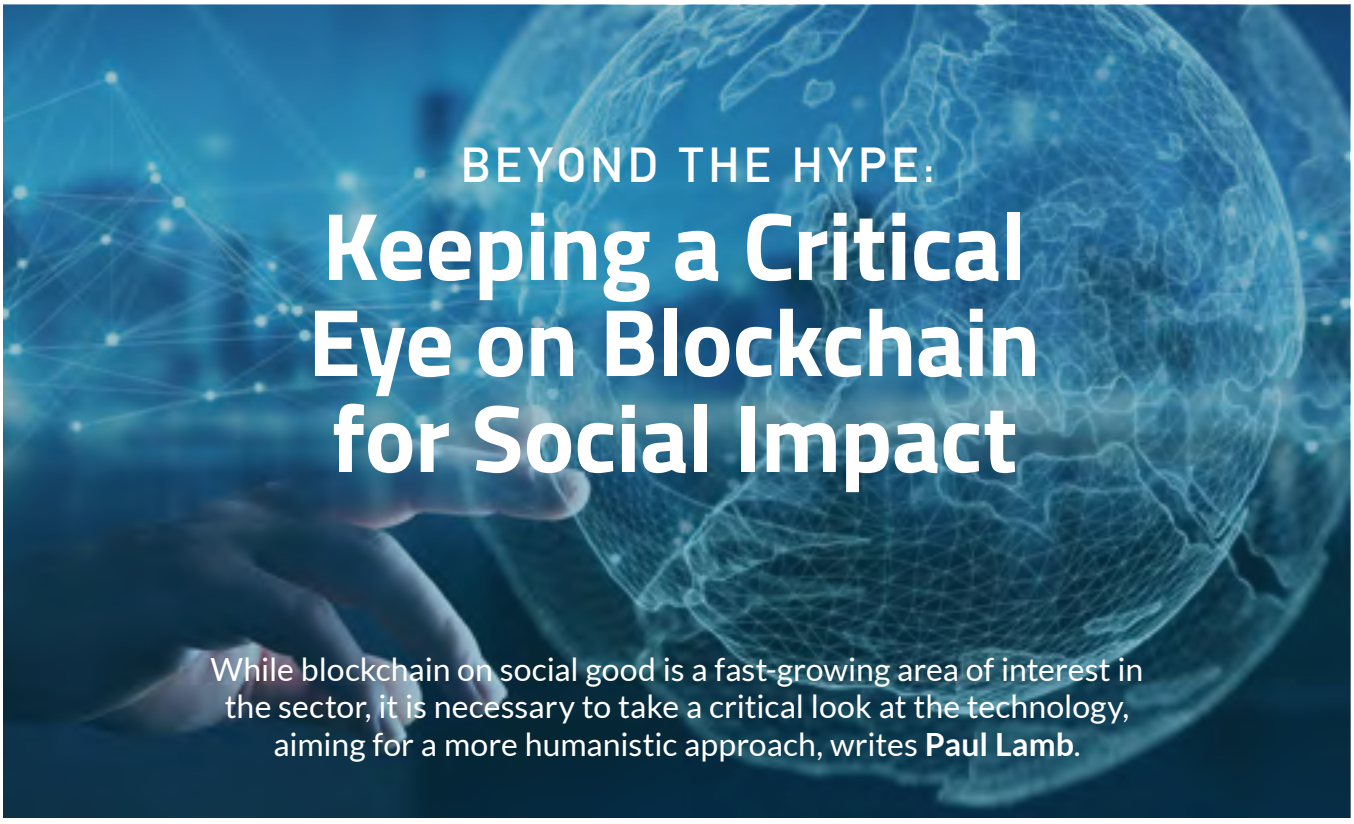
Empathic Listening: While technology has helped us with connection, collaboration is something else. Trust, the glue of all promises and plans, still takes time and significant effort. A leader presiding over unwavering commitment to his or her personal values, cannot operate as an island. He or she must reach out to, listen to, understand and engage with others. In order to drive lasting social change, a leader must engage with a variety of perspectives—that is what forms the foundation for deep and continuous collaboration that leads to growth.

A User-Centered Core: It is often not much of a stretch for the heads of a small, entrepreneurial organisation to easily and often directly connect with the people they are serving. One main goal of scale is to reach more people; a profound downside is the distance such growth can create. As powerful as innovation is, we believe that it has to be rooted in deep empathy— a real understanding of and sensitivity to the experience of another person — in order to be most appropriate, useful, and effective. To put it more simply: Even though you are scaling, you can't lose sight of who you are serving.

Adaptability: By definition, social innovators see opportunities where others see only obstacles. Bringing an idea to fruition requires a great deal of energy, as well as integrative thinking—the ability to simultaneously hold two opposing ideas in one's mind and then reach a synthesis that improves each one. But it also requires real patience, and the ability to navigate ambiguity while envisioning a better future.

As we, as a society, grapple with the tremendous needs of our time, social innovation enables us to redefine possibility. Scaling these ideas is not easy, but it is possible—especially if you have the right leadership in place.

Here at Tides—working at the nexus of funders and changemakers—we want to share our tools, our will, and our vision, so that we can turn what we know into action. And when the ups and downs get tough, it helps to focus on the endgame: to leave our world more just, prosperous and sustainable than it was when we found it.



BEYOND THE HYPE:

Keeping a Critical Eye on Blockchain for Social Impact

While blockchain on social good is a fast-growing area of interest in the sector, it is necessary to take a critical look at the technology, aiming for a more humanistic approach, writes **Paul Lamb**.

While the hype around bitcoin has largely faded, the interest in the application of its underlying blockchain technology to address social sector challenges continues to grow. Conferences, hackathons, and meetups in cities around the world exploring "blockchain for social impact" are extremely popular and often experience standing room only.

"Blockchain for good" is indeed a burgeoning field. A Spring 2018 Stanford University report identified 192 blockchain and cryptocurrency for social impact projects worldwide, over a third of which were launched in 2017 or later. Initiatives covered in the report included areas such as health, financial inclusion, governance and voting, land rights, philanthropy and aid, and the environment.

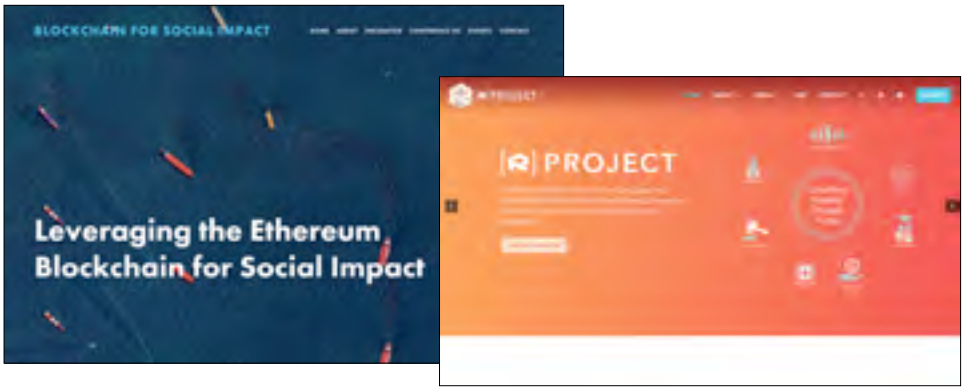
Despite the excitement and some early successes in areas like socially responsible supply chain management (see Everledger), a more critical look at blockchain for social impact is needed.

One reason to be more thoughtful is that blockchain for good initiatives are often driven by technologists and not necessarily by social sector practitioners. Numerous white papers produced by "tech for good" startups espouse the transformative nature of blockchain-based services, but most arguments for its applicability are unsupported by user surveys or successful pilots. The field is rife with speculation, and there is an overabundance of solutions chasing problems. One example is the effort to design decentralized, immutable, and secure blockchain-based databases for refugees and others lacking identity documentation. But are refugees really interested in online and mobile systems for identification tracking, especially when there may be a concern about being identified in the first place?

Naturally not every solution can be fully stress-tested in real-world environments in advance of deployment, and the lack of a pre-existing demand for a technology or service does not always determine its validity (think Uber), but the user and user-centred design should always come first. In the case of blockchain initiatives it is often the case of the tail wagging the dog.

In addition, many of the blockchain solutions targeting

> Could the very systems being developed to support underserved or threatened populations be used against them?"



developing world populations require Internet connectivity and smartphones. Accessing Web-based blockchain databases for proving land ownership, one of the most commonly promoted use cases, is not realistic for poor farmers who may not have access the Internet. For solutions to serve the unbanked, many blockchain solutions require the use of smartphones to host digital wallets for cryptocurrency access. However innovative the approach, it does not necessarily take into account projections that, even in 2018, only 36% of individuals worldwide will own smartphones.

For non-technical individuals it can also be challenging to grasp the highly technical language surrounding blockchain, and therefore fully understand its potential uses. Websites introducing new blockchain initiatives regularly lead with terminology like "smart contracts" and "tokenised ecosystems," which mean nothing to the uninitiated. Indeed, the technology is so new and unique that we are still discovering the language to talk about it. At the same time adopters don't necessarily need to be technology experts to use it, in the same way that drivers of a cars don't need to understand mechanics. But until we have a way to simplify and humanize communications around blockchain products and services, not to mention develop more user-friendly interfaces, adoption by social sector organisations and end users is likely to remain limited.

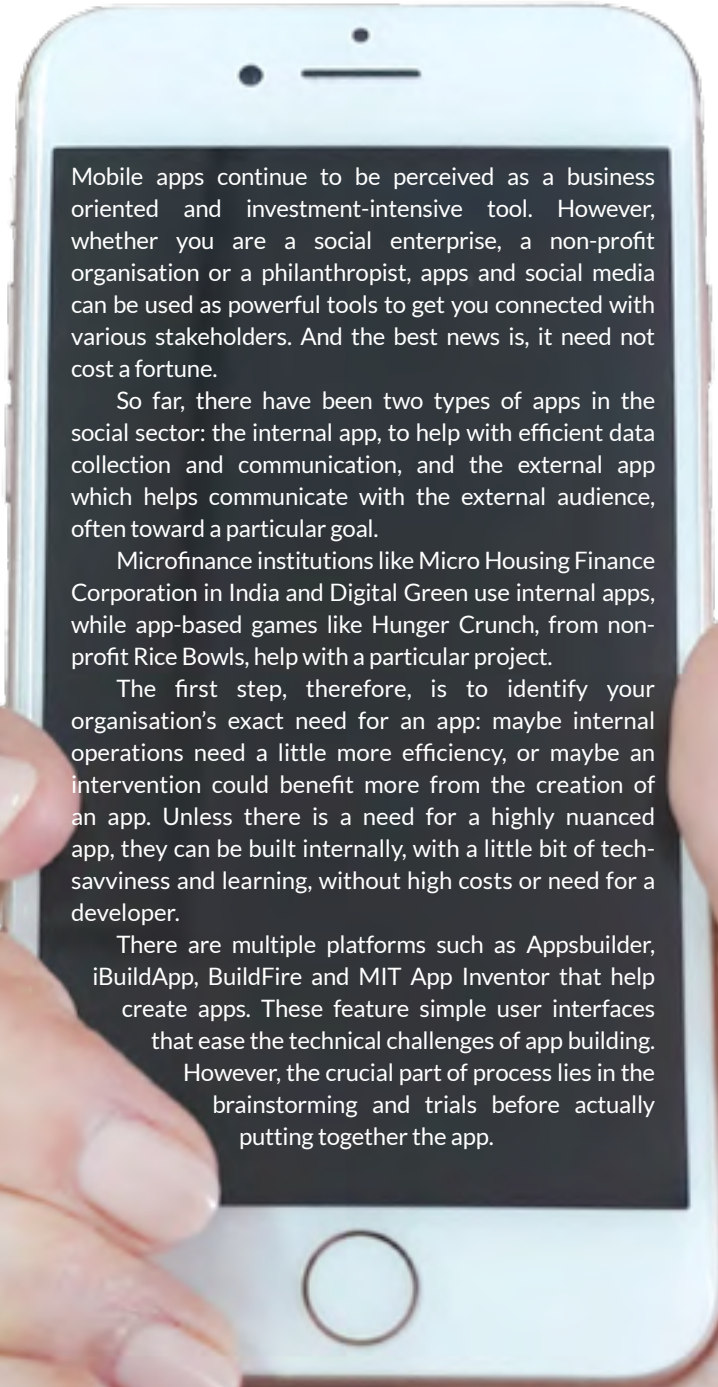
Finally, there is the question of ethics. Could the very systems being developed to support underserved or threatened populations be used against them? Bad actors and corrupt officials might control or co-opt systems designed for the social good and use them for nefarious purposes. A recent blockchain initiative designed to provide an identity system for Rohingyan refugees, for example, received criticism for potentially offering Myanmar officials a way to find Rohingyan activists, should access to individual records be unwittingly made available to them. While blockchain platforms are generally highly secure due to their cryptographic nature, the software is based on open-source code and loopholes allowing for their manipulation are occasionally discovered.

The good news is that there are dedicated individuals already hard at work exploring the larger implications for, and relevance of blockchain around social impact. Technical, NGO and social practitioner collaboratives such as the Blockchain for Social Impact Coalition and Blockchain for Humanity, among others, are looking closely at issues of governance, standards, applicability, and ethics.

At the end of the day, social sector organisations should be careful before taking the leap; first asking questions like "Is this technology relevant to my needs?" and "Do existing technology solutions work better?" It is also important to know that in most cases, we are years away from understanding the true benefits of the technology and practical proofs of concept are needed across the board. While piloting should be encouraged, and the technology truly does have transformative potential for the social sector, we need to take it one step, or one block, at a time.

Paul Lamb is the principal of Man on A Mission Consulting, a U.S.-based non-profit management consulting firm. He has over 25 years' experience as a non-profit executive, and writes and speaks frequently on cryptocurrency and blockchain for social impact.

HOW TO BUILD AN APP FOR YOUR CAUSE



Mobile apps continue to be perceived as a business oriented and investment-intensive tool. However, whether you are a social enterprise, a non-profit organisation or a philanthropist, apps and social media can be used as powerful tools to get you connected with various stakeholders. And the best news is, it need not cost a fortune.

So far, there have been two types of apps in the social sector: the internal app, to help with efficient data collection and communication, and the external app which helps communicate with the external audience, often toward a particular goal.

Microfinance institutions like Micro Housing Finance Corporation in India and Digital Green use internal apps, while app-based games like Hunger Crunch, from non-profit Rice Bowls, help with a particular project.

The first step, therefore, is to identify your organisation's exact need for an app: maybe internal operations need a little more efficiency, or maybe an intervention could benefit more from the creation of an app. Unless there is a need for a highly nuanced app, they can be built internally, with a little bit of tech-savviness and learning, without high costs or need for a developer.

There are multiple platforms such as Appsbuilder, iBuildApp, BuildFire and MIT App Inventor that help create apps. These feature simple user interfaces that ease the technical challenges of app building. However, the crucial part of process lies in the brainstorming and trials before actually putting together the app.

STEP 1

Visualise

Once the app's goal is clear, the next step is to create a storyboard to design its interface. This process needs no designing or sketching skills; all that is needed is complete clarity on the desired outcome and user interface. MIT App Inventor and AppInstitute have the facility to help you preview each screen of your app on your smartphone, to help generate a clearer understanding of the final product. Based on that, you can create rough sketches of each of the sections of your app: from the 'About' to the 'Share' sections of the app.

STEP 2

Research

The next step is to research apps serving similar goals. For example, if you are looking to create an educational game that deals with mental health, you could check games that are already available in the market. This will help you understand the feasibility of your app from users' reviews, as well as common bugs that similar apps have run into. Research would also help you understand the legal aspects/copyright clauses of any designs that you might be using.

STEP 3

Design

If your initial app looks feasible and executable, it is time to play around on an app-building website and create a prototype. Most app sites feature a drag-and-drop functionality for each step to help you structure the look of the app.

STEP 4

Test

Each of the app builders have the facility to test the prototype on your device. This will help you refine the app before launch.

Once you are through with all these steps and the app seems good to go, you can upload the same on Play Store/App Store and focus on marketing the app. Most app-building websites charge a minimum fee to enable you to keep track of your app's performance: number of downloads, reviews, and even errors that you can fix using the same platform.

So, go ahead, happy app-building!

Digital technology is shaping the world for development—there are currently 3.9 billion internet users as of 2017 with 3.1 billion active social media users.

Despite this remarkable innovation, many communities still lack access to the internet. Not only does that prevent the disadvantaged from experiencing development, it also inhibits their potential for growth. Slow network speed and privacy threats prove to be barricades for internet development, particularly in the Asia-Pacific region.

Duncan Macintosh is the chief executive officer/executive director of the Asia-Pacific Networking Information Center (APNIC) Foundation. APNIC is the official internet registry focused on internet development in the Asia-Pacific region. He was earlier development director at the International Rice Research Institute in the Philippines and moved to APNIC in 2014 to lead several programs on technical training, community development, and internet research.

In an interview with iMPACT's **Ian Jamotillo**, he speaks on the influence of the internet in the Asia-Pacific and how APNIC Foundation is shaping the region's future through digital empowerment and internet security.

iMPACT: What are the challenges that hinder the Asia-Pacific region in accessing the internet? What is the APNIC Foundation doing to solve these challenges?

Duncan Macintosh: One of the biggest challenges I see is poor infrastructure. When you have poor infrastructure, the baseline of internet will be greatly affected, preventing both access and development. This is where APNIC Foundation comes in, where we work on creating a solid

"The Asia-Pacific region is where the action is going to be"

Duncan Macintosh
CEO and executive director,
APNIC Foundation

infrastructure so that the internet can flourish in the region. One, we want the infrastructure to be secure, so when you perform a transaction on the internet, you can be sure it is a secure transaction. Two, we want the infrastructure to be inexpensive; so, when you try to subscribe on your mobile phone it doesn't cost you, say, 5,000 pesos to access the internet. Three, we want it to be fast. You don't want to sit around waiting for five minutes for a download.

How does APNIC Foundation fit into the ecosystem of the internet and the development sector?

Our role is to ensure that all the development services can deliver what they want. One is to increase infrastructure investment. We feel that the development sector does not invest enough, so we want to raise money and increase investment for internet infrastructure and technical training. Second, we want to educate the development sector. Most people have never heard of the internet registry, and don't know how the internet works.

One of your programs is to provide a fast internet connection and I'm sure you are aware that the Philippines has the slowest internet speed in the Asia-Pacific. What is the role of APNIC in solving issues like these in the Asia-Pacific?

The main work that we do here in the Philippines is to work with organisations that allow network engineers to collaborate and engage. APNIC Foundation is focused on training network engineers to the highest possible level. If network engineers are not trained well, the internet will not work properly. We also support physical infrastructure such as internet exchange points (IXP). It works like a domestic airport for internet traffic. Earlier, if you sent an e-mail from Manila to Cebu, your e-mail went to Hong Kong and then to Cebu because that's where the IXP was. Now that you have an IXP in the Philippines, when you e-mail your friend in Manila from Cebu, your e-mail stays in the country.

> "The development sector cannot just assume that the internet will be there all the time and it will be always secure and safe."

What do you think is the role of internet in the development sector as a whole? Where do future opportunities lie? What must the sector do, in your opinion, to use those opportunities?

I think it is very clear that in almost every aspect of life, the internet plays a fundamental role in the development sector. It doesn't matter if you're in health, education, good governance or environment; the internet has allowed all those development sectors to greatly boost their impact and efficiency. The message that we (APNIC Foundation) have for the development sector is that it needs to pay more attention to issues of infrastructure. The development sector cannot just assume that the internet will be there all the time and it will be always secure and safe. They must start to understand the importance of network engineers, and the important role of infrastructure like IXPs.

With all the issues concerning the internet such as security and cyber threats, how you do promote it as a positive tool in general, and not just to the development sector?

I have to admit that it is a challenge for us to promote the internet as a positive force but our approach is through technical training because we believe that if we are properly trained, we have the knowledge to manage and operate even the most extraordinarily complex networks. If the people who manage the networks aren't properly trained, the networks can be hacked and infiltrated. The internet is indeed a powerful and beneficial tool, but it really depends on how we are going to use it for our own good.

How do you see the Asia-Pacific Region in the next five years now that internet has evolved in the region?

First of all, we need to recognise that the Asia-Pacific region is where the action is going to be (with regard to the internet). It has the largest internet community and the most dynamic internet innovation. America has been traditionally the driver, but the growth in sheer numbers of people joining the internet is in Asia-Pacific and will remain in that region for many years. As we bring the internet to more communities, I believe that the coming years will open more doors for development.

TECHNICAL SNAG: Getting Started on Digital Strategies

While conversations often turn to the immense potential of technology in the social sector, some non-profit organisations do not see what the fuss is all about. Does technology offer anything apart from fundraising and networking capabilities to the typical non-profit? How does a non-profit go on this digital journey?

Technology for Good. An inclusive phrase that has, with each utterance, expanded to bring within its meaning every conceivable idea that encompasses technology, or social good.

While some organisations view their social media pages as evidence of the same, others are looking at the larger picture and how Industry 4.0 will change the way they do social good.

And then there are technologies: blockchain, the new kid on the (what else but) block, IoT, big data, and the eternal favourite: ICT. For a non-profit working on the ground, though, much of this is irrelevant. What matters is this: how do I deliver better services through technology (and can it be done)? Or how do I make processes more efficient through technology?

Recent studies have confirmed what has long been suspected: that apart from organisations for whom tech is part of their DNA—a crowdsourcing platform, for example—others are slow to take to technology. A 2017 paper, "What Next for Digital Social Innovation?" (Stokes, Baeck and Baker) reveals, "We are far from making the most of the potential in Digital Social Innovation (DSI) with few examples of DSI achieving impact at scale. Systemic barriers to growth include the availability and accessibility of funding and skills, a fragmented ecosystem and limited uptake of DSI by the public sector and established civil society organisations (CSOs)." The report cites the most commonly used technology as "Social Media/Social Networks."

Therein lies the challenge of technology and its role for social good. It seems to be primarily need-based—when it relates directly to fundraising, for example, or when donors require evidence of their impact.

Jessica Kempner, business development manager, The Social Investment Consultancy, a U.K.-based organisation working toward social change strategies for clients, says that charities are slow on the uptake when it comes to innovation using technology, but are moving toward using technology in other ways—for instance, in impact measurement, which is fast becoming a requirement for most non-profits.

> "Technology can enable a feedback loop, making sure that organisations pay more heed to the voices of the people."

Jessica Kempner
Business development manager
The Social Investment Consultancy

> If technology isn't connected to the mission and integrated into the strategic plan for the organisation, there's no way we can expect our technology to truly help us in all the ways we need it to."
>
> **Amy Sample Ward**
> CEO
> Nonprofit Technology Network

Organisations are also using the Cloud and CRM systems extensively; however, it is not common to see charities use technology for their core services—with notable exceptions in education technology, commonly called EdTech.

"It's a rare charity who will look to technology for their core program and be confident about it," says Kempner, "Charities are still very much behind when it comes to innovating using technology."

Making the transition from a highly human process to one that uses automation can be very difficult for non-profits, especially in the face of stringent donor/ funder requirements. Organisations that start off with a technology "DNA" have it easier in some ways, as it is built into the process.

Watsi is an organisation that provides community-based health coverage and crowdfunds surgeries for those who cannot afford it. So far, Watsi has helped over 16,500 patients receive free surgery. The feted Khan Academy helps students from all over the world access education through technology for free. These are, however, built with technology from the ground up.

It is the rare non-profit that harnesses the power of technology to work with its already established "analogue" processes. Like making changes to the structure of a lived-in home, moving from an analogue to a technology-enabled mode can mean a lot of change for the organisation, including that of the mind-set of the organisation itself.

A few non-profits have a natural fit with technology. Some organisations meticulously plan the ways technology can be used and some stumble upon its immense potential.

The National Alliance on Mental Illness (NAMI), based in the U.S., included Leveraging Technology as part of its strategic plan, and used it in various ways: to identify potential students for their training, to deploy learning at scale using a Learning Management System, and to identify underserved areas to focus on efforts in those geographic regions. "What used to take weeks now takes minutes and it is all done online in a mobile friendly environment," says James Stewart, chief information officer, NAMI.

Operation Asha, which primarily works in India and Cambodia toward eradication of tuberculosis, uses technology, including biometrics, to ensure that the patient and the health worker actually work together to take the required dose of medicine. Applications have also helped non-medical staff quickly note symptoms of tuberculosis, with a central medical record system for monitoring and data crunching. (See box: Beacon of Hope)

Noise Solution works toward social and emotional well-being using music and created positive circles of influence for the youth using technology. Although technology was initially meant to be used for reporting, its impact lent itself to integration into the program itself. (See Box: Sound Advice). Examples of organisations that

improved their services, processes, and even cut costs abound.

How can non-profits start on this journey to exploring technology? Experts have some pointers.

Start from the Top

While some organisations' programs and processes are suitable for transforming to technology, others are looking to simply migrate parts of their operations. This, in itself, can be a big problem to surmount and in many ways, it starts with the leadership.

"A lot of people we spoke to (for the study), said that when it comes to tech, there needs to be more active leadership from the top," says Kempner. "The manager needs to really be an interpreneur."

"Ultimately, we want to be sure that organisations recognise technology as a leadership issue. If technology isn't connected to the mission and integrated into the strategic plan for the organisation, there's no way we can expect our technology to truly help us in all the ways we need it to," says Amy Sample Ward, CEO of Oregon, U.S.-based Nonprofit Technology Network, which provides information, resources, and education for non-profits faced with a multitude of technology problems and opportunities.

She also advocates bringing technology into the budgets, integrating it in all discussions, so that, "perspectives and understanding with technology are reflected in the decisions and outcomes."

Also, practitioners caution, technology should not mean a retreat from the human aspect of the services. "Technology is only a layer on top," says Sonali Batra, chief technology officer of Operation Asha. "If your existing program is not strong,

The Pieces of the Puzzle

1. Think

The number one mistake that people make, says Simon Glenister of Noise Solution, is to tack on evaluation at the end of their work. "Think early on about how to build the process," he says. "Why not build that into the process itself?"

2. Get ready

When an organisation decides to expand its utilisation of technology, the field, so to speak, must be tilled appropriately: starting with the people in the organisation.

Amy Sample Ward, CEO, NTEN, suggests starting with the staff of the organisation, ensuring that they "know that they can and should continually learn about the technology tools that help them do their job (training isn't only on your first day of the job) and then create space for that ongoing learning inside your organisation."

With the buy-in of the leadership, this should be an easy step to cross.

3. Introspect

"Start with the problem," says Zara Rahman, The Engine Room. "Don't say, 'We want to use blockchain.' Try and start with what you are trying to achieve, and what technology might be able to do in that space."

The widely popular health financing platform, Watsi, started with the problem of access and financing of healthcare and the solution emerged from there. Operation Asha, for example, wanted to ensure the integrity of the data that was submitted.

4. Network

The non-profit world, in large part, works in silos, and information exchange is hard to come by. When becoming a part of a network like NTEN, solutions emerge.

5. Get help/pilot

If there is internal capacity, there is no need to worry about getting external help. However, most non-profits do not have in-house tech departments, and might require some handholding. Rahman suggests matching solutions to their specific needs before going the whole nine yards. The Engine Room's Tool Selection Assistant helps non-profits better articulate what their needs are.

6. Go

Once the tech solution is in place, it might meet with some resistance. Organisations that have a culture of innovation and change will find it a bit easier, as will younger organisations. "Multilateral agencies adopt technology at a slower pace too," Jessica Kempner, TSIC, says.

7. Analyse

If something fails, don't make technology the scapegoat. Analyse ways in which things might have gone wrong. When The Engine Room did a Reflection series, analysing technology solutions that did not work, what emerged was that most times, it had nothing to do with technology, but rather, communications breakdown, or cultural issues, or not understanding the limitations of the technology.

Sound Advice: Impact Measure Transforms to Program Input

U.K.-based Noise Solution's path toward technology was a bit accidental. As a non-profit organisation providing a one-on-one music mentoring program to youth in challenging circumstances as a way to up their well-being, Noise Solution initially used technology only to document the youths' musical journey.

So, each participant would, through video blogs, blogs, and pictures, write about their experiences and share it with a select group of people. However, it soon emerged that the medium used to document the experiences had, in itself, the potential to positively influence the participant. This resulted in a bespoke social media platform that became an integral part of the project. Measurements have shown the program to impact well-being positively. Simon Glenister, director of Noise Solution, says, "The most important thing is that what started off as a thing that measured impact became part of the impact."

For instance, a participant would post a blog on her session and the resulting encouragement from her social worker would spur her on, the whole process impacting the pillars of self-determination: autonomy, competency, and relatedness.

Glenister, working on his master's degree in education, specifically with reference to Noise Solution, says the process provided both qualitative and quantitative data that could, in the future, be analysed and worked on, with automation built in when the need arises.

> "Start with the problem. Don't say, 'We want to use blockchain.' Try and start with what you are trying to achieve, and what technology might be able to do in that space."
>
> **Zara Rahman**
> Research and engagement team lead
> The Engine Room

technology cannot help, and it's certainly not a magic solution."

Security in Networks

Several charities reach out for external help when they need to do something in the tech space, and often, that leads to a larger conversation about how they can unlock the potential of technology.

Creating a larger community and collaborating seems to be the need of the hour.

Consultants and advisors on technology for non-profits help design programs in a way that integrates technology into the project. The Engine Room helps with just that, using a combination of project design and support, research, and building specialised communities around data and technology.

Zara Rahman, research and engagement team lead, The Engine Room, agrees that community is key. This assumes even greater significance with non-profits, whose margin of error is almost nil.

"Too often we see organisations diving in and thinking, 'I'm going to be the one to do this' but maybe they should hold on and look around," says Rahman, whose organisation has worked on more than 175 projects in 2017. "People should try and learn from others."

It is this sense of community that led The Engine Room to begin collaboration to form the Responsible Data community, where over 800 professionals from different fields talk about data, privacy, and responsible use, through forums and newsletters.

This need for a community has also led to organisations such as NTEN. Ward says that while organisations primarily come to them when they have an immediate project in hand, NTEN recommends membership, so they can connect to other organisations that have been through the same path. With several articles, resources and courses, the network acts as a place where non-profits come together to embark on a tech journey together.

Stewart, of NAMI, says the NTEN community was a huge help. "Calling on the community for suggestions on how to solve issues and identify tools we can use for a variety of reasons is part of the culture here at NAMI," he says, adding that one of the tools they ended up using was identified from an NTEN discussion thread.

This technology journey can be as simple as migrating on to a CRM or using the Cloud to store and manage all data.

While many non-profits look at technology with a wary eye, experts do believe that the earlier they adopt technology, the better prepared they will be for the future.

"To say 'We don't need technology' is an increasingly unpopular way," says Kempner, and Glenister agrees. "There seems to be no reason to not use technology anyway," he says.

Kempner says that ultimately, the value of technology may lie in creating more human-centric approaches to service design.

"We need to start with service users and ask them what they need and start with that. Technology can enable a feedback loop, making sure that organisations pay more heed to the voices of the people. Technology is key to making that happen," she says.

A Beacon of Hope: Accountability and Metrics

Operation Asha works directly in India and Cambodia, serving 15.6 million people in the healthcare field, primarily in eradicating tuberculosis. A lot of the work involves extensive field visits and ensuring that patients take their medication on time, as missing even a single dose can prove disastrous. However, tracking to ensure that the dose has been administered was not fool-proof. Says Sonali Batra, chief technology officer of Operation Asha, "In India, data fudging is very rampant. We wanted to ensure quality of services within Operation Asha."

In 2010, Operation Asha started work on eCompliance in collaboration with Microsoft and in 2014, migrated to using tablet devices powered by their own technology. The applications use biometric data to help tracking of and by Community Health Workers. The entire data and patient records were migrated on to a central electronic medical system. Batra says that far from requiring extra resources, going tech meant that resources were freed up. After these tools were put in place, there was no looking back and large parts of the operation were automated. "Once you realise the power of technology, and that initial barrier is crossed, opportunities open up," says Batra.

1

Amplifying a New Generation

This issue's photo feature dives into the advanced world of technology and how it can be used to illuminate lives, both literally and metaphorically. These pictures--featuring alternate transport, renewable energy, and digital learning--are testimony to the rapidly advancing technologies that have started to impact remote areas of the world.

2

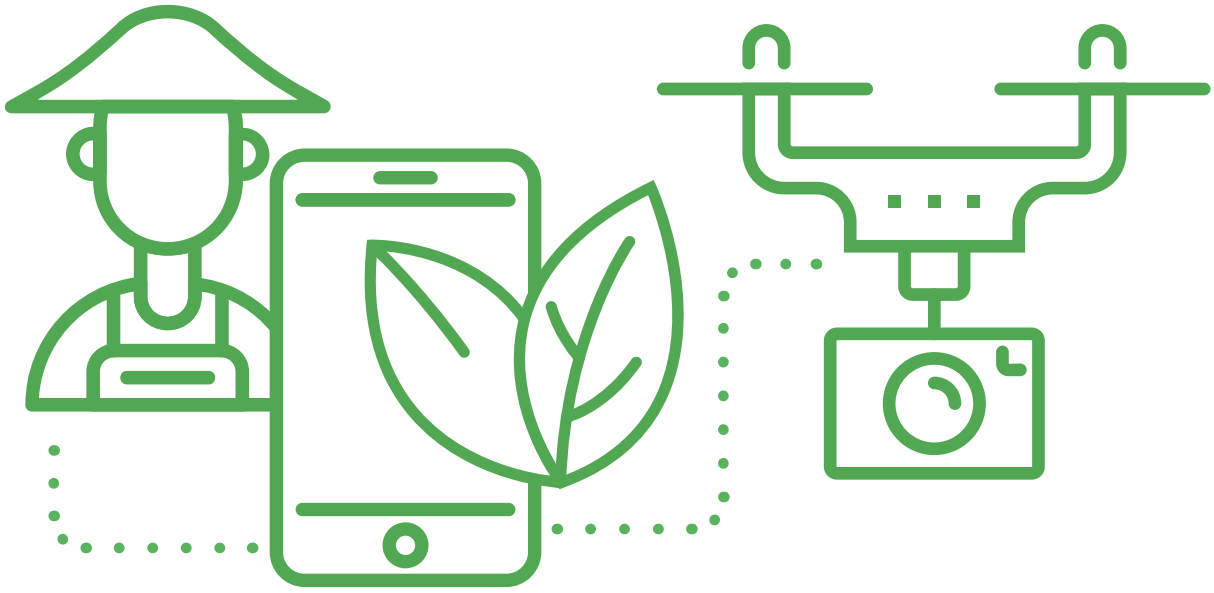
1 Members of the Igorot, an Austronesian ethnic group living in the Philippines, scan through a tablet.
Photo by Ricardo Cerdia

2 A solar panel provides electricity for a local shack.
Photo by Dhrubajyoti Bhattacharjee

3 Children in Cambodia learn using tablets while a mini solar panel powers their lamp to provide lighting.
Photo by Froi Rivera

4 Visitors traverse a park using mini scooters.
Photo by Arturo de Vera Jr.

5 A young girl learns painting using a laptop.
Photo by Eduardo Seastres



Remote Possibility?
Drone Agriculture in Asia

The use of drone technology in agriculture is increasing by leaps and bounds. Various studies telescope their growth differently, based on their definition of drones: from USD 10.7 billion in 2022 (Allied Market Research) to a more conservative USD 1 billion by 2024 (Global Market Insights, Inc.). Business Insider defines drones as aerial vehicles that can fly autonomously or be piloted by a remote individual and expects sales of drones to surpass $12 billion in 2021.

While the technology is more prevalent in the U.S., Africa has batted for more widespread use of drones to create social impact. Stemming from a situation where drones are widely used for humanitarian assistance, the technology's adaptation to agriculture was but a step away.

Several social enterprises are working on drone technology with specific applications for African agriculture. In fact, the 2018 meeting of the African Union saw its executive council requesting the AU and member states to harness drones for agriculture.

Drone technology, with its precision, can help farmers assess and predict crop health and take decisions early enough to prevent losses. Despite 54 different sets of regulations in all of Africa, the likely impact on agriculture in Africa is great. As enterprises come up with ways of scaling up usage of drones in African agriculture, iMPACT takes a look at the feasibility of using the technology in Asia, from various perspectives.

> “What particularly helps in the Asian context is a collaborative effort not only on the part of the suppliers of the technology, but also the users.”

Vasant Bhat

Founder, TRITHI Robotics, India

The twin usage of drone technology–analysis of crop health and spraying of pesticides–holds good potential in Asian agriculture. While crop analysis allows farmers to make smarter decisions well in time, drone sprays reduce the effort of spraying by 70-80%, while simultaneously ensuring a more precise and accurate dosage based on crop requirement as assessed and calculated by the drone. Traditional spraying methods often can take a day to cover 2-5 acres of land in a day, whereas a drone can spray 20-25 acres per hour.

If farmers have larger acreage as in Europe and the U.S., it is naturally more economical for them to own a fleet of drones and use them as part of their regular farming practice. However, Asia and Southeast Asia have a majority of marginal farmers making it expensive for a small landholding farmer to own and use the technology to make better farming decisions, owing to the lack of funds, lengthy process of training and basic technical knowledge required to operate and maintain drones. However, in my

opinion and experience, this does not mean that a technology known well enough for creating great impact on agricultural productivity should be a distant dream for small farmers. For smallholdings, a pay-per-acre service model would be ideal, which is not offered by many enterprises.

Further, I have observed that what particularly helps in the Asian context is a collaborative effort not only on the part of the suppliers of the technology but also the users of the technology. Farmers across this region, make decisions in groups and usually come in from acreage that generally has the same crop being farmed. Offering affordable drone services to a group of farmers in the same area, for example, is the way to enable effective usage of drones in Asia. I also do not think we can expect all of Asia to uniformly adapt to drone usage in one go, but enough focus on research and development, and joint effort on the part of businesses offering drone services, farmers and farming co-operatives, and allied industries such as seed companies can ensure effective implementation of the technology in the Asian continent.

> "Drones can, in such a changing scenario, result in farming systems that expose smallholding farmers to greater vulnerability."

Divya Nazareth
Researcher, Watershed Organisation Trust (WOTR), India

The use of drones in agriculture is much welcome to aid the state in assessment of crops to deliver essential services to farmers, such as crop insurance, especially since farmers in semi-arid regions are vulnerable to variations in weather and also given that much of Asian agriculture is also rainfall dependent.

My concern around the use of drones in Asian agriculture, however, arises with its use to guide decision-making at the farm level in an environment where the farmer is vulnerable to climate change. It has been proven that drones can be effectively used to provide recommendations to farmers in cases where the same crop spans many hectares. However, in the Indian context for example, where farmlands are characterized by small and fragmented land holdings, usage of drones can be a challenge due to the varied size of landholdings, which might not provide as easy an assessment to guide farmer decision-making in the specific context of that area.

My main concern is that using this technology now could result in maladaptation to it at the farm level. In literature, there is a reference to "deskilling" in agriculture, which means the ability of the farmer to undertake crop planning based on the soil status and resources at his/her disposal, which essentially breaks the link between environmental and social learning; in effect, leading to the farmer to be increasingly influenced by market drivers and practices of other farmers. The concern here, then, becomes that when used effectively by a few bigger farmers, the usage of drone technology in Asia could significantly influence farmer decision-making, with little or no environmental basis. This could then cause a rise in certain crops that are not suitable in the context of climate change adaptation, such as paddy and cotton.

Farmers, at present, are confronted with various setbacks such as shortage of labour, to which they are responding by undertaking monocropping and commercial farming. Drones which have the capacity to guide decision-making can, in such a scenario, result in farming systems that can further expose smallholding farmers to greater vulnerability.

> Through drone technology, the potential is endless for innovative entrepreneurs who are up to the challenge."

Arielle Molino

Sankalp Forum & Startup Wave, Intellecap Advisory Services Private Limited,

The opportunities for using drones to create positive impact across developing countries cannot be understated but only after overcoming the obstacles that lie in the way. Drone technology has demonstrated abilities to identify crop stress, assist with irrigation management, and manage pest control more efficiently and accurately than any manual alternatives.

The average smallholder farmer in Africa has limited access to agriculture technology, and climate change means that traditional planting timelines cannot be followed. So, affordable agriculture management services through drones can be a game-changer for the 500 million estimated smallholder farmers in the world. There are farmers willing to pay for this service–and not just large-scale farmers. Smallholder farmers in Kenya are willing to pay about USD $3 per acre for an assessment of crop stress, based on a business model pilot between the Dutch Development Agency SNV, and Third Eye Water, a start-up operating in Mozambique and Kenya.

While the potential for impact is nearly boundless, there are challenges preventing this promising technology from taking off in Africa. There are 54 different countries in Africa, and drones fall under the mandate of the federal civil aviation authority in each country. Therefore, for enterprises looking to scale their drone-enabled agriculture management systems across East Africa, they'd need to comply with five different regulations across Kenya, Uganda, Rwanda, Ethiopia and Tanzania.

Some countries also have extremely high costs of drone licensing. For instance, Kenya, where commercial drones were approved just last year, has a legal fee ranging between USD $1,000-3,000, making it cheaper to have an illegal drone confiscated since the penalties include a $5,000 fee and three months in jail–trivial repercussions compared to Ghana, where offenders can be jailed for up to 30 years for flying an unregistered drone.

In addition to the high costs of licensing fees, business overhead costs can quickly add up, making developing a profitable business model incredibly challenging—in effect, serving as demotivation. Those businesses creating impact for smallholder farmers are dealing with high customer acquisition costs, developing price points for customers with limited expendable income and reaching their customers in remote rural areas-all for servicing just a few acres.

Though the obstacles are steep to improve agriculture efficiencies across the global south through drone technology, the potential is endless for innovative entrepreneurs who are up to the challenge.

"**Innovation** is going to be the differentiating factor between nations"

R. Ramanan, Director,
Atal Innovation Mission

India ranks number 60 in the Global Innovation Index, a worldwide ranking of the capabilities and results of innovation of nations[1]. While India's rank has steadily increased from 81 in 2015 to 60 in 2017, clearly, the country has a long way to go before it catches up with the rest of the world.

When Steve Wozniak mentions that he doesn't see creativity in India, the country's Twitterati declare war on him, but only for a few days, until the next celebrity makes a controversial remark.

Ramanathan Ramanan, director of the Atal Innovation Mission (AIM) and additional secretary of NITI Aayog[2], India, however, has been living and breathing the ideas of sparking innovation for the past year. Through the Atal Tinkering Labs (ATL), Atal Incubator Centres and the New India Challenge, his team has been working on fostering creativity and innovation for students from school, to college, all the way to bringing the innovation to the market.

"Traditionally, education in India has focussed on rote learning in school, getting into a good college and then, into a good job in industry," says the "59-year-young" former managing director of CMC Computers. "This (Tinkering Labs) is one of the greatest disruptions in education, as we see it."

In a chat with iMPACT's **Meera Rajagopalan**, Ramanan talks about the mission, its context, and what it means to be the person entrusted with realizing India's grandest dream for her children.

iMPACT: What is the idea behind the Innovation Mission?

R. Ramanan: The purpose is really to create an environment of innovation in the country. For how do you promote innovation, and more importantly, cultivate an innovative mind-set? It must start in school. Our whole approach is holistic at the school and university level, bringing in industry and state- and national-level entities for suitable synergies. We also aim for collaboration with the private sector, public sector, and research undertakings, so that innovation is not in isolation.

Why do we need to jumpstart innovation?

Innovation is going to be the differentiating factor between nations. We are at a crucial point in the world's history, where technology is everywhere, and has also become affordable. IoT, AI, Big Data, all of these are coming together, and are becoming more important, and the environment is right for large-scale applications (of these technologies).

In such an environment, technology and innovation are going to differentiate leaders and followers.

Where does India factor into this landscape?

India is a country with a population of 1.3 billion and a rich demographic dividend. Here, 40% of the economy is agrarian and 20-25% of the population live below the poverty line. In India, there are a million challenges and this can be a million opportunities. Turning a challenge into an opportunity is only possible through an innovation culture. We must focus on creating job creators, and not job seekers.

India is on a cusp, riding rapid economic growth and a very young population. We have challenges that many Western countries do not have. But Indian innovation is uniquely placed to solve these problems, which will be very useful for the rest of the world, as we are known for our frugal innovation.

Innovation is key to the progress of a country like India. Traditionally, education in India has focussed on rote learning in school, getting into a good college and then, into a good job in industry. This (Tinkering Labs) is one of the greatest disruptions in education, as we see it.

How involved should a government be in fostering innovation?

The government is responsible for driving some of these initiatives but in such a manner that it becomes self-sustaining. It is important to rope in the necessary collaborations with the private sector and industry, who are the eventual marketplace for the innovations. So it has to be a dual approach. It is in the government's interest that youth are empowered through such initiatives. And, at least initially, a project of this scale can only be driven at a government-level, especially when you are looking at a pan-India landscape. The government also has an obligation that no part of the country be neglected.

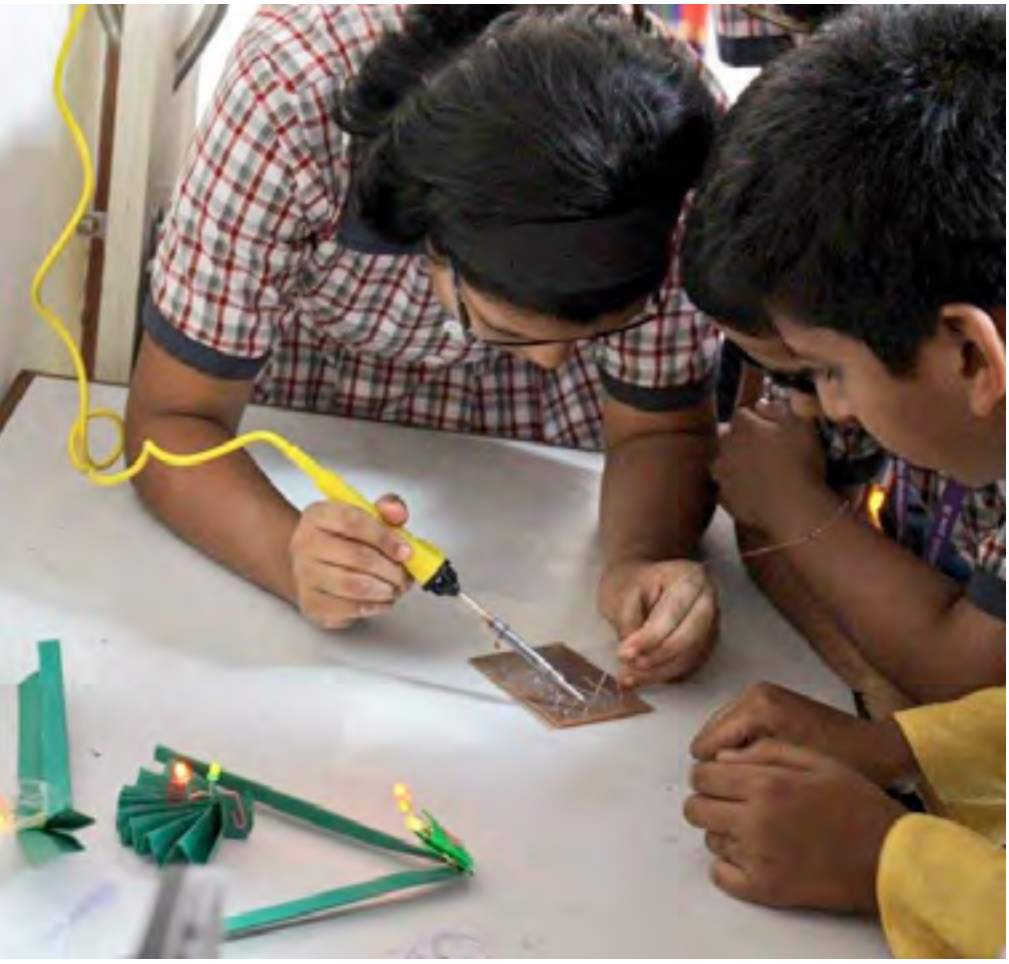
What is the idea behind the Tinkering Labs?

Tinkering Labs are dedicated spaces where students from Class 6 to Class 12 learn innovation skills. The labs are set up so children are exposed to and familiarised with state-of-the-art technology such as 3D printing and IoT (Internet of Things) devices.

Children participate in tinkering challenges and marathons, apart from various events. Through the ATLs, kids

1 The report is published by Cornell University, INSEAD, and UN agency World Intellectual Property Organization.

2 The National Institution for Transforming India, also called NITI Aayog, is the premier policy think tank of the Government of India, providing both directional and policy inputs



know that they can be problem solvers. When students innovate, they already acquire a start-up mind-set. This is one of the biggest disruptors in education, as we see it.

Many a time, programs in education run into last-mile connectivity issues. How do you ensure that everyone is on the same page?

We have training programs for the teachers, students, and mentors, apart from the online resources that are free to use. There are extensive training programs by the industry as well, for the teachers. Many large corporates, such as IBM, SAP, and Intel are partners in the program.

The other thing we have done is invite young professionals to be Mentors of Change. More than 5,000 professionals have registered for it, and more than half of them are associated with ATL. They give students technical help, and help with problem solving, mentoring, and inspiration. They commit a certain number of hours a week.

AIM has announced that the Tinkering Labs will be expanded to 5,000 schools in the upcoming year. What has prompted this move so soon?

We have seen a tremendous response to the innovation challenges by the students. More than 6,000 innovations were created during the Tinkering Marathon. About 600 innovations were shortlisted. (Of these, 30 innovations have since been showcased in a special booklet, and the teams will be given special training in entrepreneurship and communication skills: Ed.)

When we saw this, we were convinced that the time was ripe to scale. Scaling up is not an issue as setting up a new ATL is a very process-driven approach. The necessary platforms are already created, and a number of parameters for outputs and outcomes have been designed. We are aiming at 5,000 ATLs at the end of the year, one of the largest innovation projects in the world (see graphic).

Along with the labs, AIM also encourages incubators. How relevant are physical incubators in today's world?

It's part of the innovation continuum that we want to encourage: from school, to college, to becoming an entrepreneur. We are setting up incubators in institutions and universities. We provide support to new incubators, as well as scale up support for existing incubators.

To answer your question, the incubators are not going to be based in metros, and only for software-based technologies (see graphic). We are looking at other innovations too—say, an agritech start-up, which will require testing out the technology and hardware. So a physical incubator is very much relevant. Extending a physical incubator to a virtual one can always happen.

We are very cognizant of geographic and sector diversity and want to ensure that we look at sectors like agriculture and rural handicrafts.

> When students innovate, they already acquire a start-up mind-set. This is one of the biggest disruptors in education, as we see it."

The rural aspect of the economy is very much in focus, and when an incubator is awarded, we stress that the sector served be most relevant to the location of the incubator.

The Atal New India Challenge has also been launched, for innovations in areas that are critical to the nation's growth, such as agriculture, transportation, and waste management. How does that fit into AIM?

Innovations truly succeed when there is a buyer at the end of it all. Through the New India Challenge, we have collaborated with five ministries to look for solutions to challenges in their respective fields. All the identified challenges are very relevant to the growth of the country and the idea is to identify and promote product innovation. Successful products may be bought by the ministry that has identified the challenge.

We are trying to make sure that each of our initiatives feeds into the other and continuously improves the innovation environment in the country. My hope is that this will create at least one Nobel Prize winner.

What are Atal Tinkering Labs?

Atal Tinkering Labs are specific innovation labs set up in select schools across India, where students learn innovation skills and develop ideas. The lab activities are designed to foster creativity and out-of-the-box thinking. Public and private schools can apply for the Rs.20 lakh (US $30,000) grant and upon selection, the schools must undertake to use the lab in prescribed ways. The ultimate goal is to have 30,000 ATLs across the country, which will be the largest project of its kind in the world.

2,441
Number of ATLs selected

5,000
Number of ATLs targeted by 2019 March

300K
Number of students reached through ATLs

2,000
Number of mentors selected

19
Number of incubators operational

50
Number of incubators targeted by December 2018

7 Of the 19, number of incubators in rural areas/ non-metro areas

5 Simple Tech Hacks to Common Non-Profit Emergencies

This is not just the age of technology; this is also the age of doing good. The two together perform a valuable role in multiplying the impact of a social sector organisation. However, many small- and medium-sized organisations are constantly understaffed and solutions are required yesterday.

iMPACT presents five simple ideas to save time and get that task off your plate!

Design: **Help! I need a poster (or report, or Facebook campaign) designed right now!**

Free tools like **Canva** and **Easel.ly** and **Piktochart** help create design collateral with little to no design knowledge. Most of them work on a drag-and-drop model, with templates for everything from Facebook posts to banner ads, so it's easier to create good-looking collateral with a little bit of experimentation.

Scheduling: **I need to set up a suitable time for a meeting. My team is all over the world!**

Online scheduling tools can make the scores of back-and-forth emails obsolete. **Doodle** is a free software that will help you schedule slots, or even ask participants for a preferred time slot so meetings can be scheduled appropriately. **Google Calendar** can also be used for the same purpose. In a pinch, and if this is a recurring requirement, for Facebook-enabled teams, **Facebook Polls** may work well too. **Signup Genius** is another tool that works wonders.

Donor management: **I need to send annual reminders to my donors. How can I keep track?**

You know that the solution to this is a dedicated CRM. It is something that must be done, and with many companies offering free licenses for a set number of users, most small and medium non-profits will be able to afford one. It takes a little bit of getting used to, but it does save time and money, especially if you have a donor database of over a hundred.

In a pinch, and if your data is in **Excel**, just sort by date and get the information for the month. For a cleaner solution, try this formula. Create a column for the number of days since the last donation. That can be calculated using the "*=TODAY()-A2*" formula (A2 is the date of last donation). Create another column where you test whether this value is greater than, say, 330. If so, the value "Email" can be returned. Just sorting the sheet by this will help know how many people need to be reminded. You can have Excel create a separate sheet with the list of donors who need to be reminded every month.

Data Management: **I need to get data from the field. Now!**

Again, while this requires an extended and planned out implementation, quicker band aids are possible. **ODK Collect** is an Android-based app that lets you collect data from the field, and gives the option to add images, geo-tags and audio-clips. Once you create a form on the app and push it out to users, you can receive data that can be downloaded instantly.

Everything Else: If you've not signed up on **TechSoup,** do it now. They offer discounts and/or free tech resources and licenses for software of all kinds.

Hack That: Community-Led Solutions the Way Forward?

When a non-profit has a tech problem that needs to be solved, traditionally, a hackathon has stepped in. But in the age of Industry 4.0, can other models that empower the community to innovate internally be a better solution? **Shivranjana Rathore** finds one likely solution.

A room full of young engineers on the brink of the start of their careers, a social problem looking for a technology solution and only 24 hours to solve it. The team of engineers that comes up with the best solution wins and possibly, ends up creating social impact. This is the setting for a typical hackathon for good where participating non-profits leave with a tailor-made technology solution, and the best among the coders, a job with the sponsoring company. Ideally, the solution is further refined over a few months, and everyone is happy.

However, reality is a bit more complex. Subbu Parameswaran, co-founder and CEO of India-based Learning Curve Life Skills Foundation, which was part of the Code for Good hackathon organised by JP Morgan Chase, says that hackathons can be a good way to extend tech support and expertise to non-profits that cannot afford to invest in technology. However, he says, "It might not always be the case to find an easy solution in a 24- or 48-hour session, since the extent to which a non-profit is able to use

the output of the hackathon also depends on other factors: how well the problem statement was defined, the competency of the resources, and the support ecosystem provided by the sponsor organisation. Impact is also variable since, in general, most of the hackathons have a recruitment angle and very few organisations might take the mandate further to a full product."

While hackathons are good for specific technology needs with well-defined use-case scenarios, more complex solutions are tougher to crack with a short burst of coding. In effect, some problems require deeper engagement with the non-profit.

A blog post on Benetech, an organisation that helps the social sector with software solutions, states the two-fold problem: first, that funding is tough to come by and the second, more importantly, speaks to the complexity of the problem: "Social issues are complex and have a variety of causes. Addressing even one of these causes can be difficult. To ask a group of individuals with little subject matter expertise to hack a software solution over a weekend is pretty unrealistic."

There might be another model, one that empowers the community to look for solutions within. Based on the insecurity around Industry 4.0 and the projected consequent loss of jobs, emerging markets have started working toward innovation and technology at the local level. This integrates technology into the fabric of every stratum of society, rather than it being the domain of a select few. The ensuing culture of local innovation creates solutions suitable to that particular context.

Anshul Sonak, regional director (education and innovation), Intel Asia says, "The usual approach to hackathons is great; but instead of a one-time event that generates a one-time solution for non-profits, the programmatic concept of brainstorming, unlearning-relearning, incubating and co-creating solutions can be adapted to equip future generations in the developing world with the ability to innovate."

One such model is Intel's Sagasitas (youth volunteers) model, built in association with the Indonesian government. Intel built an innovation lab where local Sagasitas were, at first, specifically trained by academia and tech experts to innovate toward solving local problems.

The training includes social innovation challenges and competitions organised across different areas that solve problems experienced by the participants—for instance, loss of crop due to the manual crop drying process, declining quality of meat, and lower output from fisheries. From the problems, solutions— apps to improve food security and poultry quality, and pH sensors to maintain water pH balance crucial for good production in fisheries—resulted. Past winners of these challenges mentor younger, newer participants from the community today, making for a self-sustained innovation cycle.

While non-profits will still derive great benefit from hackathons, the underpinning of technology in every aspect of work will likely necessitate models of innovation where communities look for and create their own solutions.

Images courtesy Sagasitas

Serving Up Social Commitment

By Meera Rajagopalan

A Singapore-based education enterprise creates value by providing training in specialty coffee to people from vulnerable backgrounds, while maintaining a strong business model.

Where's the Missing E in Better?
The missing "e" represents the imperfection in each of us and the potential that we all have to be better versions of ourselves, says the founder.

Celine Oh at a recent Food & Hotel Asia trade show

SINGAPORE—For Shirley Ng, 24, trainer with Bettr Barista Coffee Academy, the day is not complete without a few cups of coffee. Not so four years ago when Ng was supporting eighteen dependents. However, coffee drinking is the least important way that Bettr Barista has changed Ng's life. She now has her own home, and is looking forward to a fruitful career in coffee. Apart from moving up in her career, Ng also aspires to compete in the Singapore National Barista Championship.

At Singapore-based Bettr Barista, social responsibility and sustainability are the centre of all operations—from ethically sourced coffee to the program that Ng graduated from: the four-month holistic training program in specialty coffee, specifically targeted at people from vulnerable backgrounds. Bettr Barista, a certified B-Corp, has so far trained 77 students in the holistic program with a 92% employment rate among graduates.

Two of the major sources of revenue for Bettr Barista are the professional coffee courses, certified by the Specialty Coffee Association (SCA) and mobile brew bars. Bettr Barista is the only organisation to offer the certifications in Southeast Asia, with over 4,000 people from 30 countries having undergone training from Bettr Barista.

In contrast to the SCA certified courses, the four-month holistic training program focuses heavily on mental and physical well-being, alongside specialty coffee skills, which include a foundation in specialty coffee, roasting, and brewing.

Pamela Chng with students graduating from the Holistic Training Programme

The non-technical parts of the courses provide specific assistance for anger management and depression, as well as particular issues arising from students' circumstances.

"In the beginning, the very basic idea was to use specialty coffee as a channel to do business in a socially impactful way," says Pamela Chng, founder. As a result, Chng says, the question always revolved around how any new idea or program would be profitable so as to ensure the social mission kept going.

Bettr Barista's events and retail carts also offer employment opportunities for the graduates of their holistic

training programs, as in the case of Ng and Celeste Oh, 20, whose latte art came to the fore during training. Oh has since won third place in the Singapore Latte Art Competition. Oh, who took the courses when merely fifteen, has been with the organisation for five years.

In fact, Chng says that committing to remain socially responsible means that choices have to be made every day.

When Bettr Barista wanted to move to retail sales, the choice was between going mainstream and looking for socially better venues. That meant getting a partner, preferably a corporate partner, on board. That resulted in Bettr Barista making inroads into places specialty coffee would not be traditionally associated with. "We started to think, 'Where can we go where people would not normally be exposed to it? Could we be in a community hospital, say? Can we make it accessible to all and not high street-expensive?" says Chng. The result was specialty coffee, manned by baristas, at corporate partner buildings, a hospital, and a government office.

Bettr Barista has received accolades and awards aplenty—from the 2017 Social Enterprise of the Year from the President's Challenge Social Enterprise Award to being on the 2017 Sprudgie Awards list. These awards, says Chng, act as validation for their work, and an opportunity for replication in other countries. Bettr Barista turned profitable in 2015, reports Chng.

The organisation plans to expand their retail sales, as well as their footprint beyond the Singaporean shores. Also, plans are afoot to move to active seniors, and people with mild mental disabilities.

Be Responsible: Pointers from Bettr Barista

Shirley Ng conducting a WSQ Provide Specialty Coffee class (the local certification class)

Be More Conscious:
If an existing organisations wants to start being socially responsible, the best way would be to be more conscious of who you do business with, says Chng.

Make Business Sense:
While working with socially responsible organisations might mean extra costs, relook your budget and factor that in.

Be Ready for Cuts:
One thing to look out for is that change is difficult. It might mean holding your ground and severing long-standing ties.

Start Slow:
If you're already running a company, start slow. Try replacing any one part of your operation with fairer options. Then build on it. Start with the B Corp List and see if you can work with any of the businesses listed there.

What's Specialty Coffee?

Specialty coffees are grown in special and ideal climates, and are distinctive because of their full cup taste and little to no defects. It refers to the whole process from farmer to cup using **single origin coffee**. The unique flavours and tastes are a result of the special characteristics and composition of the soils in which they are produced.

You Are... the Weakest Link

The overworked development sector professional whose personal and official digital lives are often fused is an ideal target for tech hackers, says **Peter Francisco**, who also provides some basic tips to remain secure.

Peter John Francisco is chief ethical hacker and VP of information security, Maroon Studios, a technology company that delivers strategic and affordable innovations for positive change. He is also a member of Side B, a Filipino organisation for bisexual activists.

Late one afternoon in the small office of an NGO advocating for LGBT rights, I wondered how an ill-intentioned person could compromise their digital safety. I was there to fetch my boyfriend, and as I waited for him to finish work, I wore my ethical hacker hat and imagined I was that ill-intentioned person. I looked around, searching for weaknesses to attack. I fired up my laptop, and in less than fifteen minutes I had access to their Wi-Fi's admin page where I could do all sorts of nasty things if I wanted to.

It hasn't been long since I've looked at digital security for organisations working for social justice causes. My primary motive was to see how I could help keep my boyfriend safe, especially since by the nature and scope of his work, he and his colleagues across different countries find themselves at odds with repressive governments and violent institutions that may have the motive and means to sabotage them. Although it is totally different from my usual work, which secures businesses, safety for this sector is very similar.

This is not so shocking when you realise we all thrive in the same big, broken, and beautiful network of servers we call the internet. And people generally are either naïve or paranoid about this. Some believe the internet is basically safe unless they do something stupid, or that the internet is fundamentally insecure and there is nothing they can do to work around this. Reality is, it is a little bit of both. By its

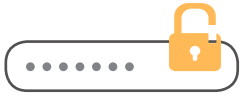
> “Hacking technology is the hard part. Exploiting weaknesses and biases to human psychology is far easier.”

very nature, the act of going online is a risky affair, and you'll never be 100% safe as long as you're on the internet. However, there are steps you can take to reach a point where you're as safe as you reasonably need to be.

This is a sentiment that resonates with every organisation I have worked with, whether in the development sector or in businesses that have initiated security planning either for compliance's sake or genuine concern. As one respected activist and friend confided in me: “There is a lot of 'you should do this, you should do that' talk around digital security and activists are overwhelmed. Not all have advanced technology to begin with.” So again, where to begin?

Securing yourself online is about knowing certain safety precautions some of which, even if clichéd, are worth repeating:

1. Use strong passwords, and do not use the same password on multiple accounts.



2. Keep your antivirus and anti-malware software updated.

3. Keep your programs and operating systems patched with the latest security updates.

4. Regularly backup your files.

5. Be mindful of sharing your personal information in all forms.

6. Do not connect to free, open, public Wi-Fi.

7. Do not click on links in emails or social media unless you are sure of the source.

This list is a good starting point for personal digital security for anyone. And the reason for this emphasis on personal online safety is that people are themselves the weakest link in any organisation's security infrastructure. In fact, the first thing a determined hacker would usually do is find weaknesses in people working in the target organisation. Hacking technology is the hard part. Exploiting weaknesses and biases in human psychology is far easier. And the dedicated and passionate development worker who doesn't sleep well, eat well, or set boundaries between work and leisure is easy to exploit.

Besides subscribing to a checklist of digital safety precautions, securing ourselves online has a lot to do with our own lifestyles. Make sure you keep yourself healthy enough to stay vigilant against digital threats, especially those that intend to attack you directly. Form good habits around your online actions and security decisions, and break bad security behaviors. You are part of the system, and addressing the flaws in our psychological make-up is as important as addressing the flaws in technologies. No amount of password changes will help if the person writing those passwords is undermined.

The vulnerability I found in my boyfriend's office Wi-Fi was a low-hanging fruit that an attacker would have spotted easily. Remember to change the default password of your routers at home and in the office. Access to these credentials is one web search away, if you know where to look. While 100% security can never be guaranteed, at least now you're harder to exploit.

The Making of a Digital Imprint: Secrets to Effective Social Media Branding

By iMPACT Staff

Here's a fact: There are millions of NGOs (and counting) across the globe. Whether they work in education, health, or environment, they all exist in the same development space and aim to make the world a better place for everyone.

In a pool of similar advocacies, digital marketing can play an essential role for NGOs in promoting their "brand" to a large audience. According to the website Statista, the number of social media users worldwide will rise to 2.77 billion by 2019, whether they use Facebook, Twitter, LinkedIn, Pinterest, or YouTube.

While sites such as Facebook are already tried and tested for digital marketing, people look for more engaging and compelling content as well as fresh channels to engage with.

iMPACT lists down some tips on how you can look beyond Facebook likes to boost your social media presence across digital platforms.

1. Tell your story

You can never go wrong with a great story. With the recent problems related to Facebook's privacy, making your audience hear you through different channels can give you an edge. Instagram is a great tool for NGOs who prefer pure imagery—it's easier to do, too! Storytelling through captivating photos can attract more attention than a long textual narrative.

2. Be responsive and lively

Going beyond the usual Facebook likes makes for a healthy and collaborative relationship with your audience. NGOs can use Facebook Messenger for Business to interact with their Facebook page visitors. This will not only boost the number of your followers, but also your reputation for being responsive.

3. Competition is healthy

NGOs who struggle maintaining traction on social media outside Facebook should opt for creating creative contests to keep their audiences engaged while gaining new followers. Pinterest is a social media channel tailored to bloggers and is slowly gaining prominence on contests. These contests allow people to participate by pinning specific posts.

4. Hashtags are key

Twitter is a great platform for NGOs to attract more followers and supporters, especially those who resist long copy. Apart from tweeting alerts to keep your audience hooked and updated, using strategic hashtags can help you increase your following. The best example of this is when you're seeking donations for your cause. Don't be shy to participate in trending topics and current events; it will keep your NGO relevant and significant.

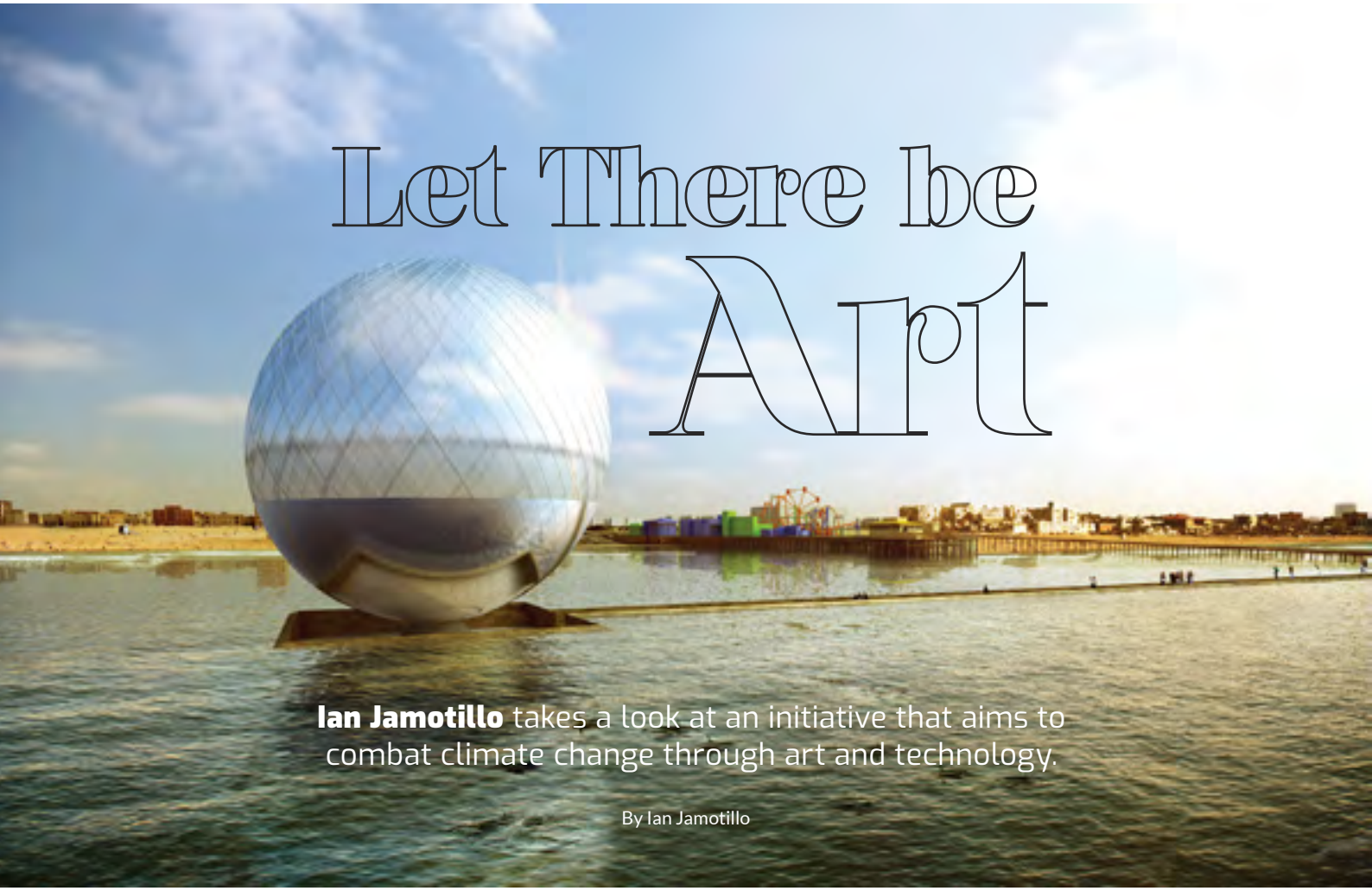
5. Connect with the industry

Amplifying conversations around your work relies on creating connections within the development sector. LinkedIn is the perfect platform for NGOs to speak with other organisations and businesses with similar advocacies. You can swim through LinkedIn and find yourself in a sea of business professionals ranging from CXOs to associates.

Let There be Art

Ian Jamotillo takes a look at an initiative that aims to combat climate change through art and technology.

By Ian Jamotillo



The Clear Orb, Shortlisted Submission, LAGI 2016 Santa Monica

In a world where climate change is bearing down, and technology universally looking bleak, mostly grey and black, how do you inspire positive climate change technologies?

For architect Robert Ferry and designer Elizabeth Monoian, both from the U.S., the answer was a competition that reimagines renewable energy as art.

Land Art Generator Initiative (LAGI) conducts an eponymous competition every two years, geared toward encouraging people across the globe to become sustainable through renewable artworks and infrastructure.

Back in 2008, Ferry and Monoian were living in Dubai and were inspired by the ambitious nature of development in the city.

"We wanted to recognise the visual impact of renewable energy technology such as solar and wind in the public mind, and how it is associated with our response to the issue of climate," Ferry said. "So we came up with a design competition that aims to help accelerate the transition to a renewable world."

LAGI has one goal—to promote renewable energy in the most engaging way. Popular culture is woefully inadequate in focusing on the energy transition, and renewable energy has not yet become a cultural movement.

The first LAGI competition was held in 2010 in Dubai and Abu Dhabi in the UAE. According to Monoian, cities reach out and ask them to become hosts of the competition to which they get hundreds of submissions every two years. The competition paved the way for several renewable energy and sustainable projects that

RENEWABLE ENERGY CAN BE BEAUTIFUL

are aimed at tackling climate issues such as global warming and pollution.

Since 2010, the LAGI Biennial has been held in several cities such as New York, Santa Monica, and Copenhagen. The LAGI 2018 competition is in Melbourne, in partnership with the State of Victoria.

WindNest is one of their projects from the 2010 competition. Originally for a site in Abu Dhabi, WindNest consists of two horizontal axis wind turbines that are connected to a micro grid and an organic photovoltaic film that generates electricity from the sunlight. This technology sustainably powers a carousel.

Another is Solar Murals, paintings and frescoes decorated on street walls that provide not only beautification but also electricity through integrated solar panel films. "I think it's great because every neighbourhood has murals; they tell stories and connect people to history and culture. Many of them could be solar panels instead of paint because the technology exists," Monoian said.

The winners are awarded cash prizes and the other entries are compiled into a book.

Besides renewable energy projects, LAGI also works with children and youth aged 8 to 17 through their "Art + Energy Camp", where they give lessons on energy science and public art and take children on field trips to different types of energy production sites. The first camp was held in Pennsylvania in 2015.

Solar Mural

> "Just go out and do it. Put solar panels wherever you can. If you don't have your own place to put them, be a part of a community project that's doing it. We have the technology to make the change."
>
> - Robert Ferry on addressing the challenge of sustainability


WindNest, 2010 competition, Abu Dhabi

Strengthening the Hands that Help

As individuals and foundations look to increase their social impact beyond their own countries, AVPN's partnership director **Caroline McLaughlin** presents a quick check-list to get started.

Caroline McLaughlin has over 15 years' experience creating and managing different networks globally. With an MBA from INSEAD, she has chaired many organisations such as the Ribbons of Hope, Invest In Women Foundation (as co-founder) and International Women of Istanbul.

For Singaporeans (and indeed, many who live in the Global North), travelling around Southeast Asia is often a vivid reminder of the contrast with their country. Therefore, it is not surprising to see people increasingly look for ways to give back and do more than donate money when they return home. They volunteer to support fundraising efforts, join a non-profit's committee or board or start a foundation to support a wide range of beneficiaries.

AVPN, a non-profit network for funders of social investment in Asia, has over 460 members who provide grants, debt and equity for non-profits and social enterprises across the entire Asia-Pacific region. We bring our members—organisations such as Rockefeller Foundation and Microsoft—together with Singapore foundations like Tan ChinTuan and Temasek to talk about how they can be more effective in their social impact.

Especially for Singaporeans who wish to do more for organisations working elsewhere, traditional fundraising strategies such as charity balls are not viable because of the rule requiring 80% of those funds to be spent on local programs. Consequently, at AVPN's headquarters in Singapore, we are often approached by individuals or smaller foundations seeking advice on helping a Southeast Asian non-profit raise funds, awareness, or both.

We've distilled our experience of working with funders and donors from across the region to help all those looking to make a difference through their non-profit work. (This is by no means restricted to Singapore.)

Do Your Research.

If the social sector is new to you, learn all you can.

TIP #1: Know the competition. Your non-profit will be special but not unique, so look for organisations working in the same geographic and thematic area. A recent Epic Foundation report found that 63% of 3,500 non-profits surveyed said that they had a unique model, i.e. they were the first organisation to implement their product/program anywhere, which is rarely the case. You can look at AVPN's Deal Share Platform, Give2Asia or Simply Giving for similar non-profits.

TIP #2: Know the region your non-profit works in. Your non-profit is part of the greater social investment ecosystem; and every country in Asia has a nuanced social sector, comprising governments, aid agencies, local foundations and corporations that you can tap into for resources and support. AVPN has produced a comprehensive guide to the Social Investment Landscape in 14 Asian countries detailing key players in each sector.

TIP #3: Learn how non-profits work. The non-profit world is different, and you will learn this at your first board meeting. Experience with for-profit boards is good, but learning how non-profits work will help you ask relevant questions at board meetings, which will help steer the organisation.

Fundraising is hard.

This is, however, the life-blood of a non-profit.

TIP #1: You don't need to be that person who can sell ice to an Eskimo. It's a skill that can be taught, so you could take an online course to immediately add value to your board contributions and provide fresh thinking and approaches. Philanthropy University offers free online courses on fundraising strategies.

TIP #2: Corporations are tricky to engage with and rarely give cash donations. They might, however, be able to provide:

1. In-kind support;
2. Manpower, if you have an employee engagement opportunity; and
3. Some funding through employee donations and a matching scheme, if they have one.

TIP #3: Broaden your base of funders

1. Subscribe to resources such as AsianNGO and FundsforNGOs, which provide an overview of granting opportunities from funders all over the globe.
2. Look at who funds in the region or in your sector. Check out AVPN Landscape report, research other NGOs doing similar work in the region and make a list of their donors, and check which corporations are supporting your cause.
3. Reach out to local foreign government aid groups like DFAT or USAID and see how you can be accredited to receive government and multilateral funding.

TIP #4: While you are working on tips 2 and 3, don't forget your individual donors.

1. Recognise them annually with report on the impact of their donation.
2. Look for ways to increase their giving through monthly direct debits, and fundraising events.
3. Ask for introductions to their friends and family.

This is just to get you started; as you engage with the community and the non-profit of your choice, you will be able to formulate and iterate strategies that will work better for your cause.

MAPPING SAFETY

Mapping technology and GPS are being used to help make cities safer globally. Today, groups of activists and professionals are working to harness new technologies surrounding the simple map to break taboos around sexual harassment.

By Shivranjana Rathore

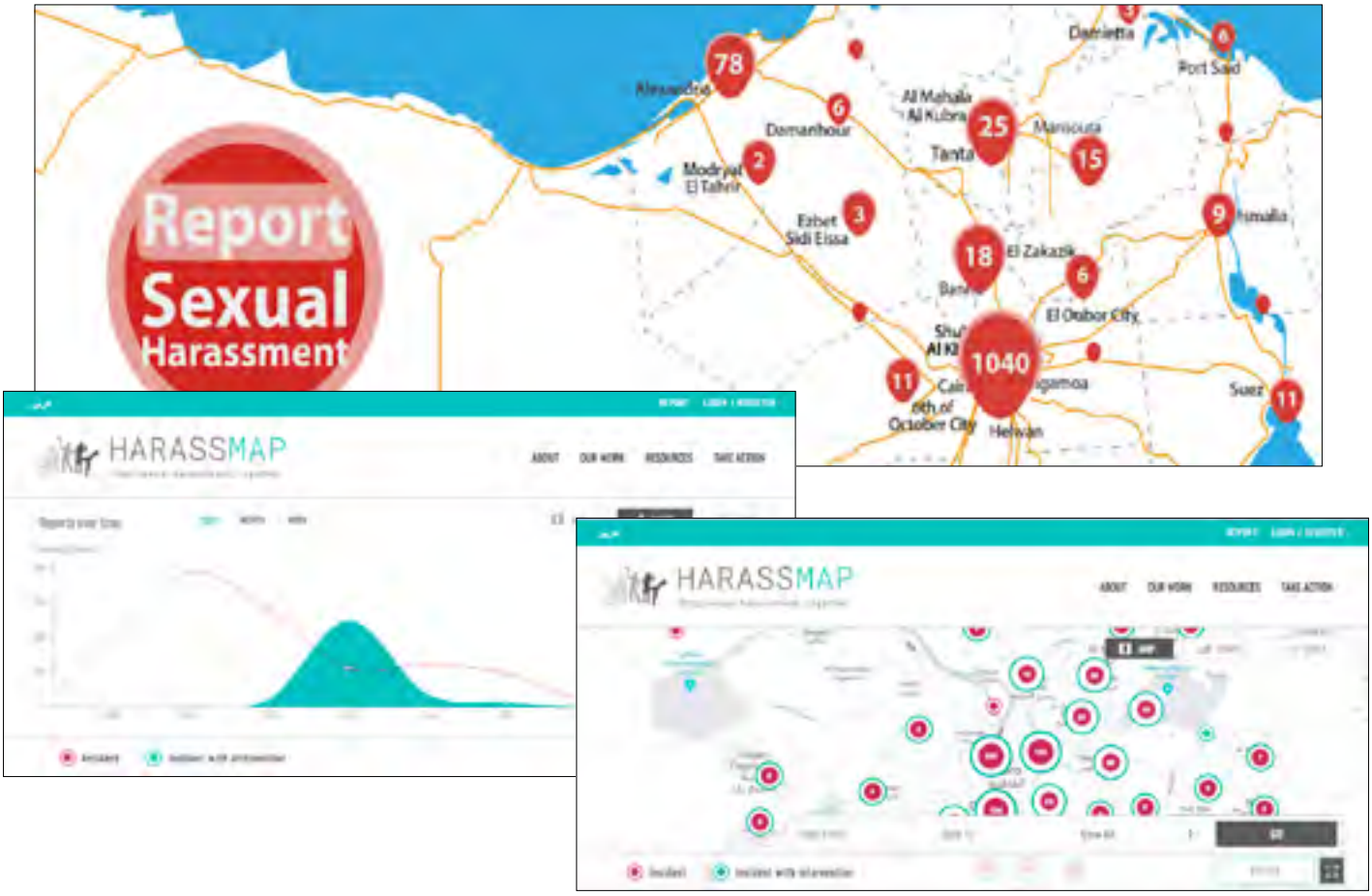
Sexual harassment is a daily experience for many women globally, significantly curtailing movement in public spaces. A recent World Bank study notes that four in five countries do not have appropriate laws against sexual harassment in public spaces. This "geography of fear" and the consequent alteration of women's behaviour when accessing public spaces has been well-documented.

In 2010, a new wave of technology-based initiatives to break the silence around sexual harassment was kick-started with the launch of HarassMap in Egypt. Founded on a voluntary basis, HarassMap initially used an open source platform, Ushahidi, to crowdsource data on a map, allowing victims of sexual harassment to report incidents. With Ushahidi, users can drive customised map-based campaigns to source data. HarassMap used the platform to map crowdsourced data on sexual harassment incidents.

The use of this simple technology saw a surge in reports of incidents of sexual harassment as women found an outlet to share experiences of harassment in an environment that deemed the usage of the term "sexual harassment" taboo. Encouraged by this, activists from other countries established their own organisations—for example, Safe Streets in Lebanon, Women Under Siege in Syria, and Safe City in India.

However, the journey has been anything but smooth. Noora Flinkman, head of marketing, communications and technology at HarassMap, shares that their model of using mapping saw a decline in reporting over time. This seems to be the case with most organisations. Flinkman says that this decline can be attributed to a summation of causes that does not include a decrease in street sexual harassment.

In the case of HarassMap, the first hurdle was the founders lacking a technology background, to be able to customise the platform for their specific needs. They learnt that while



in the beginning, using Ushahidi was easy, but to sustain an entire organisation based on it required far more precision in understanding code.

The other hurdle has been underreporting. "One challenge over these years has been encouraging victims to continue to report incidences of harassment. Since they do not get anything in return, the incentive for a victim today to report an incident is less. The only way to tackle that has been to consistently share the importance of this data during our workshops while we offer free resources on our website," says Flinkman.

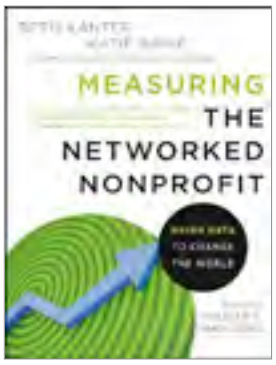
Over the years, mapping in this field has seen two types of usage, says Kalpana Vishwanathan, co-founder of Safetipin, whose apps were launched five years ago. One use is the emergency app for someone to seek help when in danger and two, something along the lines of HarassMap, which gives women the space to share stories, thereby enabling a conversation around harassment. Safetipin with its approximately 100,000 downloads, moves beyond reporting to conducting safety audits using mapping technology through its three unique mobile applications that use nine parameters to mark an area as safe or unsafe.

HarassMap's data, though incident-based, can become a source of data and information key to creating advocacy campaigns to influence decision makers as well as citizens. Viswanathan agrees. "Collecting this data has seen some good impact. While mere rating of localities as safe or unsafe helps people make safer decisions, our aim is not to just label areas as safe or unsafe but to make the city safer," she says. The data that Safetipin collected helped light up about 90% of 7,500 dark spots in New Delhi, upon recommendation to the state government. The organisation has been invited by the government to map another area in the city.

Collaboration and working on data seems key to making change happen. Otherwise, data might reside in silos, or simply as a billboard warning against unsafe spaces for women.

In October 2018, HarassMap will pilot its bespoke mapping platform developed specifically for organisations looking to crowdsource data on sexual harassment. The platform will be free for anyone looking to use mapping, specifically to tackle sexual harassment.

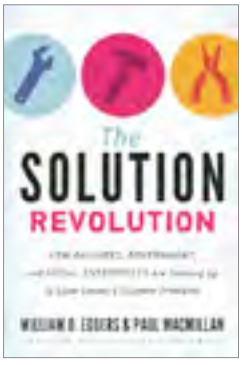
6 Books for More Powerful Social Impact in a Changing World



Measuring the Networked Nonprofit: Using Data to Change the World (2012)

By Beth Kanter, Katie Paine

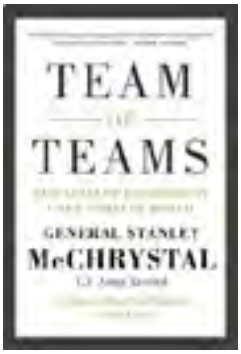
This book serves as a great resource for non-profit professionals in a world with connections defined by social media. It is important for non-profits to monitor and measure the impact of their social media, the tools and strategies for which are offered in this book. The tools will enable better non-profit decision-making while producing results-driven metrics for staff and stakeholders.



The Solution Revolution: How Business, Government, and Social Enterprises Are Teaming Up to Solve Society's Toughest Problems (2013)

By William D. Eggers, Paul Macmillan

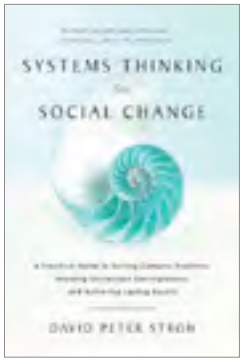
This book answers often-asked questions on the solution economy and its players. The authors use examples of people and organisations driving the "solution revolution"—social enterprises, mega-foundations, and companies doing social good while remaining profitable. They highlight the need to change the economic paradigm to create value and enable social enterprises so that they can add to the lives of citizens.



Team of Teams: New Rules of Engagement for a Complex World (2015)

By General Stanley McChrystal with Tantum Collins, David Silverman, Chris Fussell

Written by a retired U.S. army official and his colleagues, this powerful book shares how the challenges faced by them as soldiers in Iraq can be relevant to countless businesses, non-profits and other organisations in this rapidly changing world. This book describes that the solution lies in creating teams within teams–giving small groups the autonomy to experiment while driving everyone to share their learnings.



Systems Thinking for Social Change (2015)

By David Peter Stroh

Applying conventional thinking to complex social problems can often further the very problems that were intended to be solved. This book helps readers understand "systems thinking" to devise better strategies based on the complex social systems that might exist in an area of work. It also guides readers on incorporating systems thinking in problem solving, decision making, and strategic planning to create lasting impact.

Data Driven Non-profits (2016)

By Steve MacLaughlin

This book is a guidebook for non-profits to learn to tap into their potential data and create powerful impact. As Big Data transforms economic decision making, many non-profits remain unprepared to make the most of it. This book will enable non-profits to accelerate impact by way of making sound decisions based on data.

The Purpose Economy, Expanded and Updated (2016)

By Aaron Hurst

Ashoka fellow Aaron Hurst shares tools for individuals and organisations to find purpose and thrive in this new era. Hurst talks about the "purpose revolution" driving the changing economic landscape, with purpose-centered professionals not only building more satisfying careers, but also contributing more productively to organisations.

Why Humanitarian Aid and Development Is Entering a Critical Digital Phase

In a world of rapidly increasing internet connectivity, digital literacy and advancements in technological innovations, how is the humanitarian aid and development sector faring? The event director of AidEx, the world's biggest event for humanitarian aid and development professionals, Nicholas Rutherford says AidEx this year is specifically set against a digital background to answer these crucial questions.

Under the theme "Revolution in the digital age: Safeguarding a future for all. How can technology contribute to a positive social impact?" the conference, to be held November 14-15 in Brussels, will explore in-depth the most important and pressing questions that the aid and development community must consider if it is to evolve with the digital revolution.

Digital literacy has become vital to ensuring that vulnerable and marginalised people and communities are able to use technology in a world familiar with increased connectivity. Louisa Seferis of the Danish Refugee Council will help us consider the risks of such connectivity, and how people in developing countries can be empowered with digital skills.

Beyond internet access, what else is needed to achieve global digital inclusion? From cyber security to leadership and technical skills in implementing effective regulations, policies and infrastructures, it is necessary to learn what is needed to support the building of these systems and processes.

The digital age presents both unprecedented opportunities and impediments, in terms of infrastructure and data – but what impact are these having on the delivery of meeting the seventeen Sustainable Development Goals (SDGs) by 2030? Can digitalisation be a tool within itself used to enable better SDG results for more people?

There is no denying that the aid and development system is changing. As more actors enter the field from across the sector, existing organisations are adapting. From embracing new technology, to inventing new financial services, Head of Innovation for the Red Cross, Nan Buzard will question the extent technology can accelerate innovation and improve aid efficiency in a keynote speech on November 15.

Expanding new markets involving drones, blockchain, self-driving vehicles and mobile banking all present themselves as promising emerging solutions, but how do we encourage the uptake and integration of technology by local and traditional enterprises and why is it so important for them to adapt?

The ethical concerns behind using big data to secure essential evidence and analysis required for sustainable development must not come at the cost of the sensitivities of vulnerable populations. What measures must organisations take, therefore, to become digitally resilient, to prevent breaches and cyberattacks?

Technology is inevitably transforming the aid and development sector, which is why it is imperative for the community to come together to discuss how best we can cooperate, in order to ensure "no one is left behind."

Over two days, AidEx 2018 promises to instigate dialogue and influence

thinking around the future of aid and development within a context of digital revolution. Being the largest event of its kind, the event in Brussels will see over 2,000 aid and development professionals attend the two-day high-profile conference and exhibition.

From international government officials to private sector CEOs and heads of charities, expert speakers will contribute their ideas and projections. The major keynote address will come from former Under-Secretary-General for Humanitarian Affairs & Emergency Relief Coordinator at the UN, Sir Stephen O'Brien KBE. Meanwhile, the exhibition will showcase 200 suppliers of innovative products and services on behalf of UN agencies, NGOs and commercial organisations. There will be numerous networking opportunities and award ceremonies.

AidEx is a free, must-attend event that bridges the gap between civil society and the commercial sector.

For more information about AidEx 2018 events, visit www.aid-expo.com

KEEPING IT SIMPLE: Technology for Small-Scale Farmers

The key to meeting the ever-increasing demand for food in a world that has many young farmers struggling with a grim future, lies is capitalising ICTs and simple technologies such as videos and text messages with contextual content, writes **Susan Thomas**.

As you read this article the Indian subcontinent is being drenched by the annual Monsoons–a phenomenon that has a decisive impact on the subcontinent's economy, and the income and well-being of the majority of its population. The southwest Monsoon in India is spread over four months starting in June and accounts for over 75% of India's annual rainfall. Notably, nearly 70% of India's farming community is comprised of small-scale farmers who depend entirely on these rains for their kharif crops.

As per India's census of 2011, 263 million people are engaged in the agriculture sector. It provides employment to 56% of the Indian workforce. The sector's performance has strong ripple effects on other sectors, directly or indirectly, as well as far-reaching implications on the social, political and economic spheres.

Agricultural practices in developing countries such as India are often influenced by traditional practices and farmers' collective wisdom, which do not necessarily translate to optimal productivity or profits. Also, recent studies reveal that most small-scale farmers or the youth in the farming families no longer view farming as a sustainable livelihood source.

Most agricultural extension and advisory services in developing countries have been following traditional methods including on-farm demonstrations, organising farmer groups and farmers' training, training of extension providers and developing training modules and materials. However, these have been costly, slow and limited in effectiveness due to various reasons such as generic, top-down content and language barriers.

It was almost ten years ago that a group of engineers and economists in Microsoft Research's Technology for Emerging Markets office in Bengaluru, India hit upon an idea to support agricultural extension.

The solution was quite simple–to involve the community itself in developing content by putting the technology into their own hands–and which proved to be at least ten times more efficient and seven times more likely to encourage farmers to adopt new practices compared to conventional agricultural extension systems.

The idea eventually spun off as a non-profit–Digital Green–which developed the approach further. To ensure usage of technology available to

smallholder farmers in a manner that connects the farmer with the content, a community video production team creates videos using simple, low cost tools, averaging eight to ten minutes in length. The content is locally relevant, evidence-based and produced in the local language. Members of the community are cast in these short videos enabling viewers to connect instantly with the message. Subject matter experts review the video content before it is finalised for screening using battery-operated Pico projectors where a trained village resource person mediates a discussion around it. Follow-ups are done regularly to ensure adoption of actual practices.

According to the FAO, global food production will need to rise by 70% to meet the projected demand by 2050. This points to a critical need to act quickly to support farmers–especially, smallholder farmers who account for 80% of global agricultural production from developing regions–get timely and correct information to increase production and gains.

Despite several well-meaning attempts to use ICTs for empowering communities, its true potential is yet to be harnessed in the agriculture sector while other more complex technologies continue to be developed. Learning from Digital Green's experience, the solution to this problem lies in capitalising the rise of, and ubiquitous nature of, information and communication technologies (ICTs). Other low-cost technology such as Interactive Voice Response (IVR) systems and text messages, that smallholder farmers have access to, can also be used to send out additional information or reinforce messages. Various development organisations, technology firms and research teams have already begun exploring how Internet of Things (IoT), Artificial Intelligence (AI) and precision farming can be used to empower farmers.

With newer technology being developed, it is possible to provide more nuanced solutions to farmers, if the potential of these technologies is used more effectively. We are currently, in partnership with the Government of Andhra Pradesh's Department of Agriculture and Cooperation (APDoAC), piloting multiple technologies such as drones and helium balloons as well as soil moisture sensors, weather forecasting systems to test how newer technology can be further engaged to better service smallholder farmers in Andhra Pradesh, India.

This partnership among various organisations dedicated to piloting technology-based innovation in agriculture highlights the importance of tapping into available technology to enable greater productivity in agriculture while empowering the farmers to adapt to newer technology and challenges. As our world evolves, we certainly need more evolved and collaborative ways of adapting the simultaneously evolving technology, to accelerate progress for all.

> "The solution was quite simple–to involve the community itself in developing content by putting the technology into their own hands–and which proved to be at least ten times more efficient…"

All images courtesy Aniruddh Kaushal/DigitalGreen

Susan Thomas manages communications for Digital Green, a global development organisation that empowers smallholder farmers by harnessing the collective power of technology and grassroots-level partnerships.

Open Calls for Grants

Request for Proposals: Global Literacy & Accessibility Challenge
Deadline: 25th July 2018
Amount: $ 30,000
Link: https://research.fb.com/programs/research-awards/proposals/global-literacy-accessibility-challenge-request-for-proposals/
Facebook Research invites academicians globally, to submit proposals for grants to improve access to education and overall literacy.

Notice of Funding Opportunity: U.S. Consulate General Hong Kong & Macau
Deadline: 31st July 2018
Amount: $ 20,000
Link: https://goo.gl/1ACDwd
Grant for arts and culture available under the Consulate's Small Grants Program for non-profits and individuals in Hong Kong and Macau, working to build cultural understanding between USA and Hong Kong.

Call for Proposals: Seed Fund for Research and Training, Southeast Asian Regional Center for Graduate Study and Research in Agriculture
Deadline: 1st August 2018
Amount: $ 15,000
Link: http://www.searca.org/scholarship/seed-fund-researchtraining
Grant for South East Asian countries aiming to provide start-up funds to researchers and scientists seeking to make significant contributions to agriculture development in the region.

Call for Concept Notes: Danida Market Development Partnerships (DMDP)
Deadline: 16th August 2018
Amount: $ 10,50,000
Link: https://goo.gl/6d4xnP
Grants of DKK 80 million to be divided up among 10-12 groups working in the area of responsible business contributing to promoting Goal 8 (local economic growth and employment).

Notice of Funding Opportunity: Technology and Outcomes in Low and Middle Income Countries
Deadline: 1st September 2018
Amount: $ 125,000
Link: https://grants.nih.gov/grants/guide/pa-files/PAR-18-242.html
Applicable for countries including Bangladesh, Bhutan, Cambodia, India, Indonesia, Papua New Guinea, Sri Lanka, Vietnam and others, the grant is to encourage exploratory/developmental research applications that propose to conduct research to develop or adapt innovative mobile health (mHealth) technology specifically suited for low and middle income countries (LMICs) and determine the health-related outcomes associated with implementation of the technology.

Call for Applications: International Non-violence Training Fund (INTF) by A.J. Muste Memorial Institute
Deadline: 7th September 2018
Amount: $ 4000
Link: https://ajmuste.org/programs#intf
Grants for trainings that help people learn how to collectively use the theory and practice of nonviolent action as part of ongoing campaigns or programs for social justice. Projects must be located outside the United States, or within its Native nations.

Call for Applications: Cambodia Innovate and Learn Grants by Voice Global
Deadline: 16th September 2018
Amount: € 5,000 - 200,000
Link: https://goo.gl/ANLnHp
Voice Global invites applications from organisations that want to learn from human-centred innovation and/or to test and scale new approaches.

Call for Applications: Jack Kimmel International Grant Program
Deadline: 1st October 2018
Amount: $ 10,000
Link: https://www.treefund.org/researchgrants/kimmel
Facilitated by the TREE Fund, this global grant invites applications from professionals working in the areas of urban and forest community management, plant health, root and soil management and so on.

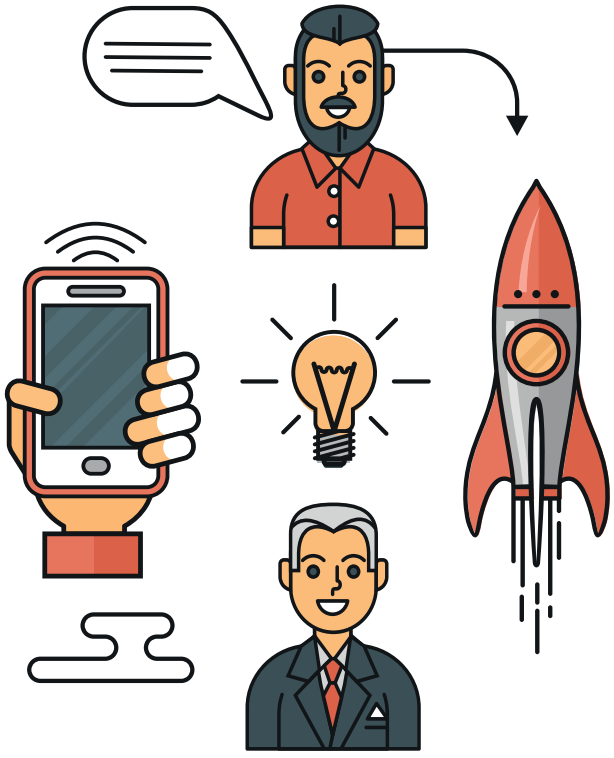
Call for Applications: Publication Programme (Nagao Natural Environment Foundation)
Deadline: 16th October 2018
Amount: Upto ¥ 1,000,000 or $ 9,000
Link: http://www.nagaofoundation.or.jp/e/research/publication.html
The NEF Publication Programme supports scientific publications which are derived from applicant's own research work and will expand knowledge of nature conservation in developing countries in the Asia-Pacific region.

Call for Proposals: Seizing the Moment - Global Sudden Opportunity Grants
Location: Laos, Indonesia, Cambodia, Philippines, Tanzania, Uganda, Kenya, Mali, Niger and Nigeria
Deadline: 31st December 2018
Amount: € 5,000 - 200,000
Link: https://www.voice.global/calls-for-proposals-overview/
Multiple grants available for proposals focusing on the interaction between national and regional/global opportunities that are sudden and unanticipated impacting vulnerable communities.

To access more grant opportunities, please visit www.asianngo.org

Enter the Social Technology Entrepreneur

By Meera Rajagopalan



It's a party.

You're being introduced to people, all of whom seem younger than you. You're very impressed by the fact that they are all looking out for the world; you are positive about the prospects of the planet you live on. You even forget Amitav Ghosh's dire predictions in "The Great Derangement" and allow yourself some optimism.

And then, it happens. You happen to talk to one of them, a tech socialpreneur (or was that social techpreneur?).

You politely ask about her work. She starts off by prefacing her sentence with "aunty." You grimace but let it go, in the interest of the world at large.

"Aunty, you know, I'm working on a social enterprise myself. It will change the whole paradigm of learning."

"Amazing," you tell her. "What is it about?"

"Aunty, you know how textbooks are?"

You wait, not sure how to answer. Expensive? Outdated? Boring?

"Linear." Wouldn't have guessed that in a thousand years.

She continues, without a break. "Learning is never linear. Thoughts are not linear; why, even time's linearity may only be a construct. You know what's the only thing that's linear?"

Textbooks, obviously. My mind seems fuzzed.

"Lines," she declares.

You're intrigued. The elevator pitch is working.

"So my product will work on the concept of synergising natural learning pedagogies with technology." Here were these words you'd always had a love-hate relationship with: synergy, pedagogy, technology.

She's on a roll. "The student will go on a learning path of her choosing. If a student is inclined towards learning numbers, she can simply choose to go that way, and delve deeper into it. We're targeting primary school children, and have created a prototype as well."

You blink. You really want to encourage her, but it seems a few key steps are missing in the planning.

"So, who is it for?" you ask tentatively.

"Anyone. I don't want it to be restrictive. But I really want to give it to kids who, you know, don't have a chance to access computers."

"But how will they access the app?"

"You know the rate of smartphone penetration among schoolchildren, aunty? It's just ridiculous."

But these are primary school children, you want to say, without sounding critical. Instead, you say, "You've done some study of the target group?"

"Yes, yes." You notice a hint of irritation, but let it go. "You know the lady who comes home to clean? I've asked her all about it. She has given me the entire demographic data."

Baseline and needs analysis from a single source! You realise that the idea needs a lot more work, and proceed to talk about needs analysis. She interrupts softly.

"Aunty, it seems like you are asking for a doctorate for this. It's obvious what is required. You just have to look around you."

"It can be a very simple process—the needs analysis," you insist. "Just use an app to collect the data. I can help you with it."

"App? Aunty, how will they access the app? Download it? I doubt it."

"But your product is an app!"

"That's different—that will

be learning for the child."

You just nod. "Maybe you can talk to someone who has some experience in this sort of thing, you know, just to get a perspective."

"Aunty, can I be honest? No offence, but older people just cannot 'get' this generation. They took our grandparents' world, messed it up, and are now giving it back to us all broken, as if it were a toy. Can't take them too seriously."

You see the truth in the statement, and again, you nod.

"So, you see, aunty, we have already started pilots. And we've also started a crowdfunding campaign. We don't want to be going behind the big guys. We can do it all ourselves."

You feel like you are watching an attempt at a jump between buildings—it could be momentous; it could also mean a crash. You want to try and help, but you realise, with a sinking heart, that tech is the new money.

We tend to throw it at everything, hoping it will magically solve the problem. Like we threw Facebook at the distances between relationships; biometrics at our systemic corruption; mammograms at the alarming rise of breast cancer; devices at our kids (not literally, because—God forbid—that would mean we would have to engage them ourselves).

Technology is but an enabler. Clichéd, but true.

My young friend might well make great strides with her project, but unless it is done mindfully, with a deep understanding of the problem underneath, it might simply remain a nice cool layer of cream on a tumbler of scalding milk.

(The views expressed in the column are those of the writer. No techpreneurs were harmed during the making of the column.)

Resources

TITLE OF ARTICLE	ORGANISATION	WEBSITE
The Skype is the Limit	E-Vidyaloka	www.evidyaloka.org
See. Cry. Click. Donate. Smile. The Rise of Crowdfunding for Healthcare	Milaap Ketto	www.milaap.org www.ketto.org
Can Start-Up Mode Founders Lead Organisations to Scale?	TIDES	www.tides.org
Beyond the Hype: Keeping a Critical Eye on Blockchain for Social Impact	Man on A Mission Consulting	www.manonamission.biz
Bridging the Disconnect	The APNIC Foundation	www.apnic.foundation
Technical Snag: Getting Started on Digital Strategies	The Social Investment Consultancy National Alliance on Mental Illness Nonprofit Technology Network The Engine Room	www.tsiconsultancy.com www.nami.org www.nten.org www.theengineroom.org
Face-Off: Remote Possibility	TRITHI Robotics India Watershed Organisation Trust (WOTR) Intellecap	www.3thi.com www.wotr.org www.intellecap.com
Innovation is going to be the Differentiating Factor between Nations	Atal Innovation Mission (AIM)	www.aim.gov.in
Hack That: Community-Led Solutions the Way Forward?	Learning Curve Life Skills Foundation Intel Sagasitas	www.learning-curve-foundation.org www.intel.com/innovate www.sagasitas.org
Serving Up Social Commitment	Bettr Barista	www.bettrbarista.com
You Are... the Weakest Link	Maroon Studios	www.maroonstudios.com
Let There be Art	Land Art Generator Initiative	www.landartgenerator.org
Strengthening the Hands that Help	AVPN	www.avpn.asia
Mapping Safety	HarassMap	www.harassmap.org
Keeping It Simple: Technology for Small-Scale Farmers	Digital Green	www.digitalgreen.org

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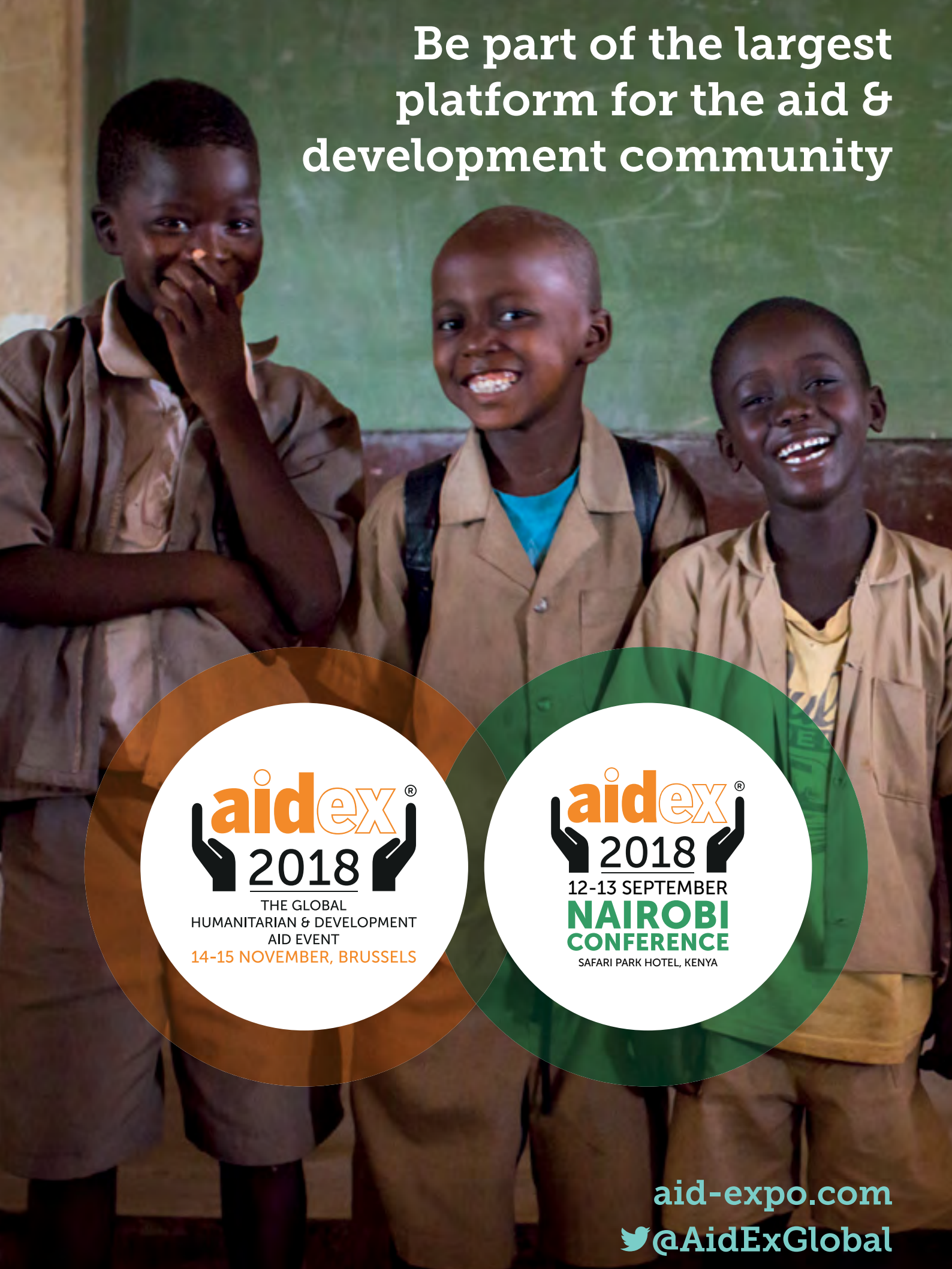
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