FÖRENINGEN FÖR
UTVECKLINGSFRÅGOR

Magazine.

INNOVATION & DEVELOPMENT

THE MARCH ISSUE // 2019

The Future is Already Here

Fredrik Björksten
EDITOR IN-CHIEF

When the 1.3 billion people of India woke up on the morning of November 9th, 2016, many of them had become poor overnight. After Prime Minister Modi's sudden decision to ban a staggering 86% of all cash in circulation, the 500 & 1.000 rupee notes had become nothing more than "worthless pieces of paper" and people could no longer pay for basic services. However, after much initial pain, the cash-ban has started a transformation of Indian society. As it appears, India is heading straight for the future.

The Prime Minister wanted to deal with issues of tax evasion, money laundering and corruption by forcing "black money" into the system again. However, by doing so, Modi might have triggered something bigger. Now, a technical revolution of mobile banking is underway in India – and it does actually make sense.

In New Delhi, the famous street food stand "Moolchand Paratha" reported a few years ago that 20% of its daily transactions came from mobile payments. In fact, it has been estimated that around half of the Indian population are already signed up to mobile-banking. This is not surprising – millions of Indians simply do not have access to conventional banks. Why bother with ATMs, paper money and travelling back and forth to bank offices when all you really need to handle money is a phone? This is an example of how technology is changing not only people's lives, but our understanding of the whole economic system. Ultimately, it is an example of what the future will (probably) look like.

Now, in this issue of FUF Magazine we will take you through India, Bangladesh, Zimbabwe, Congo, Rwanda and much more to see how innovation and technology are changing the way we think about global development. And why wouldn't it? There are currently more mobile gadgets than there are humans on the planet and the iPhone (introduced 12 years ago) is not even a teenager yet. Thus, the possibilities seem to be endless! But maybe, just maybe, we should wait a bit before we declare 86% of all global cash as useless overnight.

Have a good read!

FÖRENINGEN FÖR UTVECKLINGSFRÅGOR

THIS MAGAZINE AND ALL ARTICLES ARE AVAILABLE ONLINE AT OUR WEBSITE: WWW.FUF.SE/EN.

WANT TO GET INVOLVED? CONTAT US THROUGH MAGAZINE-LUND@FUF.SE **OR VIA OUR FACEBOOK PAGE:** @FUFLUND.

Photo: Zimbabwean-Eyes, Flickr.

Digital Activists Speaking Truth to Power

Shutting down the internet is one of the ways used by most governments across the African continent to silence opposing voices. However, citizens continue to use the internet to create awareness, organize and plan marches within and outside their countries. They have also come up with innovative ways of bypassing the shut-downs.

In January 2019, Zimbabwe shut down its internet after citizens protested against fuel price hikes and the failing economy. The Democratic Republic of Congo (DRC) had its internet and text messaging blackout in December 2019 to prevent the circulation of 'fake' election results on social media. In Cameroon between January 2017 and March 2018, the Anglophone regions of the country spent 230 days without internet access.

The 2018 CIVICUS report shows that democracy within most African countries hangs in the balance, as many have repressive laws that limit freedom of expression and the right to assembly. The internet is one of the spaces governments close or monitor before, during, and soon after elections to intimidate opposition party supporters. The internet is also used to keep activities of journalists in check, and human rights activists suspected of, or accused of being, the mouthpieces of the political opposition. Yet, despite that governments are passing cyber laws that limit freedom of speech, many people are still using the internet as a space to organize, speak truth to power and hold authorities accountable.

Social media, blogs, vlogs, online petitions, mobile phones and SMS are among other tools used to promote social change. Citizens are innovatively using technology to circumvent repressive regimes through digital activism. In doing so, they also keep the world informed

"Democracy within most African countries hangs in the balance"

about what is happening on the ground and help to spread information that usually is not covered by mainstream media.

One of the ways in which people use the internet to promote social change is through hashtags in social media. With this strategy, activists create hashtags on multiple social media platforms to plan marches and protests, mobilize fellow activists and to discuss issues with an overarching aim of making change. In most cases, these movements are complemented with grassroot activism. Examples of such movements include #ZumaMustFall which trended from 2015 until 2017 when the then South African president Jacob Zuma was forced to resign,

and the #Zimsolidaritymarch which saw Zimbabwean president Robert Mugabe stepping down from power in November 2017.

Another way that people are innovatively using the internet can be witnessed from the recent shutdown in Zimbabwe. Connected citizens were able to inform the outside of the situation on the ground by posting and sharing pictures and video clips of different human rights violations. These posts made it difficult for the government to deny that violence had happened during the shutdown. The posts also sparked solidarity from people outside the country who marched to their respective embassies calling for internet restoration, political and economic reforms and non-violence in the country.

In January 2019, James Thompson stated; “When government played its heavy hand on freedom of speech by shutting down social media space, Zimbabweans were ready to counter it [...] live video footage, news updates and breaking news made their way to the world through Facebook, WhatsApp and Twitter.”

This was made possible by social media activists who created awareness on how to bypass state censorship through a Virtual Private Network (VPN). Media activist organizations also took to twitter to recommend VPN and Tor services for people trying to access social media. Others shared tips on how to use Telegram, an anonymous messaging app. Regional efforts are being made to ensure that activists continue to not only stay online during shut-downs, but also to ensure online safety and security at all times. Why? Because the freedom of speech is under attack.

The author has requested to remain anonymous.

Photo: Albert Gonzalez Farran, UN Photo.

WHEN LEARNING GOES ONLINE

A reportage by Siobhán Coskeran

New technologies have the potential to provide educational opportunities in underprivileged contexts. Examples from India, however, show that it is not only innovative technologies that are important, but innovative uses of technology.

Of all the innovations that have shaped the world of education in the past twenty years, none has been more exciting - or more controversial - than technological innovation. The classroom has become a digital space, the power of technology to engage children of all abilities and prepare them for an ever-changing workplace accepted as fact. Last year alone, the European Commission announced a Digital Education Action Plan and the Swedish government strengthened the place of digital skills in the national curriculum across every subject.

Further afield, the EU has also invested heavily in the 'ICT for Development/Education' (ICT4D/E) movement as a potential solution to the parallel challenges of teacher recruitment and growing demand for education in developing countries. Such attention has prompted a range of technologies that have immense potential in the fight to improve both access to and quality of education. But how far can technological innovations address the complex issues that shape a child's education? Examples from India show the challenges involved.

One Laptop Per Child

The non-profit One Laptop Per Child (OLPC) was once the poster child of the ICT4D/E movement. In 2005, their plans to create a rugged, versatile laptop for just $100 caught the world's attention. The opportunities that this would provide for children in the Global South were particularly exciting - armed with

"When every child has a connected laptop, they have in their hands the key to full development"

a OLPC laptop, children with otherwise limited educational opportunities would be connected to the digital world and all of the possibilities that it provides. Fourteen years later, this remains a key objective of OLPC: "When every child has a connected laptop, they have in their hands the key to full development and participation."

The Indian government was one of OLPC's first seven customers, but due to delays, revisions and rising costs, it dropped out in 2007 before the project was launched. Unperturbed by these challenges, Satish Jha, a journalist, corporate executive and a social entrepreneur, took up the project himself and has since worked to encourage India's 28 state governments to sign up to OLPC. This flexibility of organisation - working with private as well as public entities - has helped OLPC to set up projects in 24 different countries today. It is also, however, a sign of the operational difficulties that have held back the spread of OLPC's ambitious aims. In India, so far just 4 state governments have taken the project on board and fewer than 5000 laptops have been supplied.

Although Jha plans to continue expanding operations in India, a problem is perhaps the limited technological capacity of OLPC laptops. The 'XO' model has many benefits: its power usage is low, and its easily-

Photo: One Laptop Per Child, Flickr.

replaceable rubber keyboard means it can cater for India's 24 official languages. But, despite upgrades that increased costs and eventually made a $100 price tag impossible, the XO laptop still tends to pale in comparison to budget smartphones and tablets. Fears have also been raised that money invested in the laptops could be better spent on other resources, such as teachers, that as yet have a more demonstrable impact on the learning experience.

Hole in the Wall

While OLPC have tried to replicate the way in which technology is used in the West (private ownership, individual use), other initiatives have sought new paths. In 1999, Sugata Mitra, the academic said to the be inspiration for Slumdog Millionaire, embedded a computer into the wall of a slum in New Delhi. His aim was to provide 'Minimally Invasive Education' for children in areas where good teachers would not go. Within a few months, he found that local children, many of whom hadn't seen a computer before, had not only learned to navigate its functions but had used it to learn about a range of subjects. His experiment launched Hole in the Wall, a project which today provides computers in playgrounds or other communal areas in a range of underprivileged communities.

To Mitra, the power of technology is not its technical specifications, but its ability to stimulate a 'self-organised learning environment' in which students work in groups to pursue educational goals relatively independently of the teacher. While further research is needed to study the long-term impact of the Hole in the Wall project, Mitra's findings have shown promising effects on motivation, engagement, and retention of information when technology is used to stimulate group work.

"Enlisting British grandmothers to provide informal lessons to children in India"

E-learning

Excited by the ability of technology to improve educational standards, Mitra also launched the idea of a 'granny cloud' in 2014, enlisting the help of hundreds of British

grandmothers to provide informal lessons to children in India via Skype. The use of volunteers to provide online lessons is an increasingly popular idea, fitting into a global trend of rising 'e-learning' in developed as well as developing contexts. Its potential to reach areas with limited resources is immense. However, studies have shown that, although e-learning increases enrolment rates, it also suffers from higher drop-out rates than traditional educational contexts. In response, calls to target broader social issues have arisen. Technology alone does not provide the broader support network needed to succeed.

So what do we know?

Technology helps to spread free, equitable education. It has the potential to contribute to the international community's ambitious goal of providing quality education to all by 2030. However, as the case of India shows, the merits of technology need to be considered on a case-by-case basis. Technology cannot respond to all local needs or overcome all of the problems limiting educational quality in poorer contexts. What's more, use of technology alone does not equate to creativity. The successes of Mitra's projects and the limitations of OLPC suggest that it is not simply technology itself that has power, but how it is used.

Siobhán Coskeran

Siobhán is a Master's student in International Development and Management at Lund University. She is particularly interested in issues surrounding education, gender inequality, and sustainable development.

Is ‘Sky Ambulances’ the future in Health Care?

A news piece by Åsa Setterqvist

Zipline, a US-based company, has been using drones to deliver medical supplies to health clinics and hospitals in remote areas in Rwanda since 2016. Now the project is to be implemented in Ghana.

In January 2019, Zipline announced that they had set up their first distribution centers in Ghana, following a similar project design introduced in Rwanda in 2016. Children in Rwandan distribution centers are calling the drones “Sky ambulances”, which according to Keller Rinaudo, the CEO at Zipline, is an accurate description. The drones are delivering medical supplies and blood bags to hospitals and remote health clinics through the sky by dropping off packages with small parachutes.

It takes about 30 miutes for the drone to travel 50 kilometers and as drones are not dependent on the local infrastructure, they can fly over mountains and in most weathers. Drones could therefore be the solution to improving access to medical supplies in remote areas around the world. Inaccessible areas with a limited supply of blood and medicine could quickly have these supplies delivered to them - a service that took several hours prior to the use of drones.

Even though the project could develop Ghana's medical care to the better, the project has met ciritism. Zipline will get 12 million dollars for the first four years of the project. Politicians, medical personnel and lawmakers in Ghana has questioned both the cost of the project and if drones are the right priority in Ghana’s health care. However, Ghana’s government has now started to implement Zipline’s drones and are hopeful that this will be one solution to health access in remote areas. Overall, drones are predicted to be a more frequently used tool in healthcare and the project is expected to spread to several countries around the world.

Åsa Setterqvist

Åsa is currently working in grassroots projects with human development and has a bachelor’s in political science from Lund University. Her interest lies mainly in human rights, migration and environmental issues.

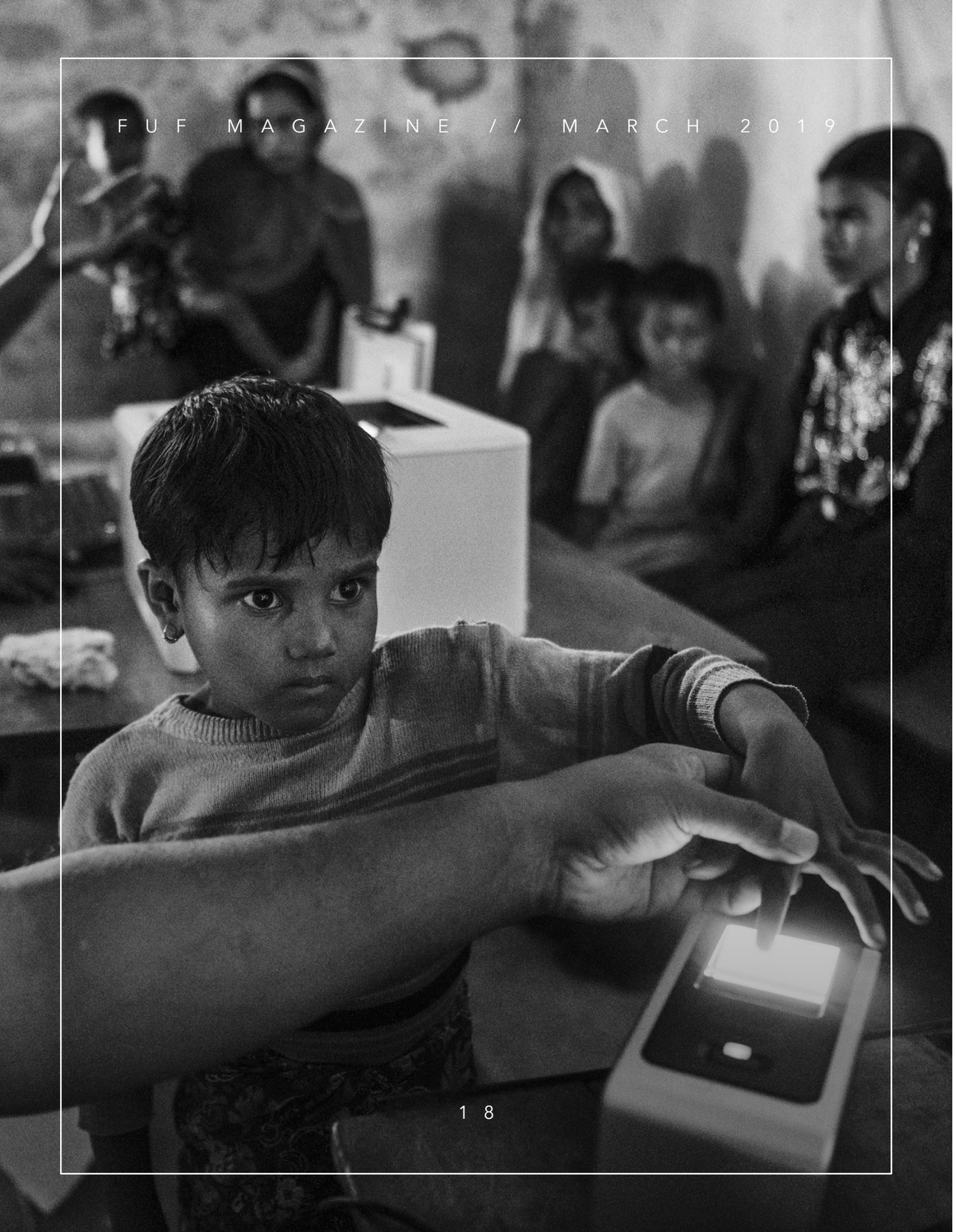

Photo: Kevin Frayer.

Rohingya Refugees Tagged & Tracked

An opinion piece by Tessa Stockburger & Iryna Sharypina

With the production and handling of sensitive data, humanitarian organisations could be risking the lives of the very people they're mandated to protect. Yet, they might not even realize it until it is too late.

United Nations investigators have accused the Myanmar army of 'genocidal intent' and ethnic cleansing. Still, the Rohingya people continue to flee ongoing violence and persecution on the basis of their ethnic identity from Myanmar, crossing the border into Bangladesh.

Today over 900,000 Rohingyas reside in Bangladeshi refugee camps seeking safety. In an attempt to provide services to this vulnerable population more efficiently, humanitarian organisations in collaboration with Bangladeshi authorities have been using biometric identification. However, with protests up roaring in these camps, Rohingya refugees now fear that this data may be used against them.

The term "biometrics" refers to characteristics usable for automatic recognition such as fingerprints, retinal patterns, facial structures and DNA. Although this might make work easier for humanitarian organisations, it also poses several risks such as violation of privacy, misidentification, stigmatisation of refugees and the misuse of data.

Currently, Rohingya identities in the form of biometrics are being collected and stored in a database in which they have no control over. Just last year it was confirmed that at least 8,000 Rohingya recorded identities have been shared with the Myanmar government during the negotiations with Bangladeshi authorities sending Rohingya back to Myanmar. Strikingly, however, there was no consultation in their willingness to return to Myanmar or consent before sharing the biodata with the very authorities they had fled from. Human Rights groups have responded by voicing their concerns that there is no effective plan in place to monitor or ensure the Rohingya's safety if they return.

The Bangladeshi government has said explicitly that they don't want the Rohingya, so one could only imagine what they could do with a biometric database of the Rohingya population. Sending the Rohingya, and all their data, back to Myanmar places their lives in huge peril and certainly undermines their safety and welfare. Although biometrics is useful in making the provision of services easier and efficient for humanitarian services, it is evident that it might come at the cost of the protection and safety of the very people that need it most.

For the agencies charged with protecting some of the world's most vulnerable people, this case also raises a deep dilemma – Is collecting biometric data always in the best interests of refugees themselves?

Tessa Stockburger

Tessa is from Sydney, Australia, studying a Masters in International Development and Management at Lund University.

Iryna Sharypina

Iryna is from Belarus, she is studying a Masters in International Human Rights Law at Lund University.

Uncovering Peatlands to Combat Climate Change

An article by Erika Alm, Harmat Frigyes & Aida Esmailzadeh Davani

What if 20 years' worth of US fossil fuel emissions was released due to unsustainable land use? Exploiting the world's largest tropical peatland, recently discovered in the Congo Basin, might turn this scenario into reality.

Peatlands do not only house some of the most endangered and sensitive species on earth, they also bind vast amounts of carbon. Although known peatlands cover only 3 % of the earth's surface, researcher's believe they might store twice as much carbon as the world's forests combined. The world's largest tropical peatland complex - a peat-filled wetland - has recently been discovered in the Congo Basin. It contains carbon equalling three times the planet's annual fossil fuel emissions. If dried out, or drained, carbon accumulated over thousands of years is left free to interact with oxygen and decompose, releasing vast amounts of greenhouse gases. To conserve peatlands, they first need to be found – and this is where technology comes in.

The discovery in the Congo basin was enabled by new technologies of data collection. Through a combination of satellite imagery, digital elevation models and peat sample analysis, the peatland is now estimated to be

Photo: Ahtziri Gonzalez, CIFOR.

16 times larger than what was earlier perceived. That is, around the same size as England, storing 30 billion tonnes of carbon.

Sustainable management of peatlands is extremely important for climate change mitigation. For example, Indonesia has the biggest total area of tropical peatlands in the world. However, due to palm oil plantations and other activities where the land is drained and transformed, Indonesia has encountered several problems. Not only does the drainage increase the CO2 emissions, it also enhances the risk of wildfires. In 2015, the World Bank estimated that burning peatlands cost Indonesia over 16 billion dollars and released 800 million metric tonnes of CO2. Furthermore, one study claims that in Indonesia, Singapore and Malaysia, 100 000 people have died prematurely due to burning peatlands and the released toxic gases.

The discovery makes the Democratic Republic of Congo and The Republic of Congo the second and third most important countries in the world regarding tropical peatlands. According to researcher Greta Dargie, it is of the greatest importance to leave it intact and protected. The Republic of Congo is currently considering including a large part of the peatlands in the Lac Télé community reserve, a major conservation area. This decision will have consequences on the global scale, since irresponsible exploitation have ramifications far beyond country borders. Hopefully, improvements in remote sensing technology will enable us to protect even more peatlands in the future.

Aida Esmailzadeh Davani

Aida has a bachelor's degree in Environmental science from Lund University.

Erika Alm

Erika has a bachelor's degree in Environmental science, and is currently writing her master thesis in Forestry Science.

Harmat Frigyes

Frigyes has bachelor's degrees in International Relations and Finance & Accounting. He is currently studying Economic Development at Lund University.

Photo: Daniel Murdiyarso, CIFOR.

Photo: Violaine Mart, UNCTAD.

THE SWEDISH DEVELOPMENT FORUM

The Big Push for Blockchain comes from the Global South

An article by Vittorio Capici & Wooseong Kim

The incorruptible digital system of economic transactions known as Blockchain has climbed up governmental priorities in the Global South. Today, blockchain technology strives to solve fundamental public issues.

Generally, blockchain technology is still associated with cryptocurrencies. However, the applications of this technology go well beyond alternative monetary systems. Target 1.4 of UN Sustainable Development Goal 1 aims to ensure that all people have access to ownership and control over land and other forms of property. Yet, land tenure is still one of the significant challenges for several countries in the Global South. Today, Blockchain technology promises several solutions to the land ownership conundrum, especially for densely populated developing economies such as India.

The Indian Example

In 2018, several state governments in India started to use blockchain technology to supplement their land registration system. Similarly to other developing countries, the reliability of existing land registration systems

was an issue due to being vulnerable to malicious manipulation. Due to the lack of reliability, social conflicts for land ownership became common. The conflict may result in violence and death like the huge protests in several villages of West Bengal in 2017.

In an historical twist, blockchain is currently solving these critical issues in India's Haryana and Andhra Pradesh states. The technology improved the immutable transaction record history and transparency, thus allowing blockchain to inspire other states in India to introduce this innovation.

South-South Cooperation & Blockchain

India's use of blockchain is considered as a milestone towards a full global integration of the technology. However, the country is not

"Chile, Venezuela, Brazil and Indonesia have all increased their investments

alone - it found good company in other Global South countries. Chile, Venezuela, Brazil and Indonesia have all increased their investments in blockchain. In 2017, the size of the market was $400 million. Not only did it increase to $500 million in 2018, it is expected to grow to $20 billion by the year 2024.

Several countries in the Global South are retaining control over a large portion of this market, and they will continue doing so in the future. The importance of blockchain for these countries is reflected by the mushrooming of several international initiatives among developing countries, commonly referred to as South-South cooperation. In August 2018, five major banking institutions from the emerging economies of Brazil, Russia, India, China and South Africa, aka the BRICS, signed a Memorandum of Understanding (MoU) on the development of distributed ledger technology (DLT). Today, the agreement allows these development banks to study the applications of innovative technologies in infrastructure finance and bank products optimization.

And if you thought that this was surprising, there is actually much more. To expand the potential of blockchain beyond the banking and financial sectors, other initiatives were put forward by other international actors.

In September 2018, the Blockchain Charity Foundation (BCF), a non-profit organization dedicated to blockchain-enabled philanthropy, and the United Nations Development

"Blockchain has the potential to change the lives of people"

Programme (UNDP), announced a partnership. The collaboration seeks to to support the application of blockchain technology for social good.

BCF will donate $1 million to UNDP in order to help close the UN Sustainable Development Goals (SDGs) funding gap. BCF is initiated by Binance, a blockchain ecosystem and the largest cryptocurrency exchange by trading volume. With the support of UNDP, BCF committed to pursue opportunities where blockchain technology can be used to provide innovative solutions to development challenges.

In the Global South, blockchain has the potential to change the lives of people in numerous ways, from establishing more trustworthy public registration systems to boosting substantial South-South international cooperations. Considering the current trends, blockchain is likely to find its applications in the Global South as much as in the Global North, but probably with higher transformative effects.

Wooseong Kim

Wooseong is a Master's student in Economic Demography at Lund University. He is particularly interested in consequences of population aging, fertility change and social epidemiology.

Vittorio Cpc

Vittorio is a Master's student in International Development and Management at Lund University. His passions lie in Horn of Africa's politics, South-South cooperation, migration and agroecology.

Does Technology Improve or Imperil Agriculture?

An article by Carolina Yang

Innovation has been pinpointed as a crucial strategy to shift towards a sustainable food system in the EAT-Lancet Report released in January. Although agricultural innovation should not be limited to technology, it has without doubt had substantial impacts on our current food systems. Technology, however, is a double-edged sword, and should be properly evaluated prior to its application.

How do you imagine our food system will change in the following decades? In a visualized food system of 2040, automation and mechanisation are expected to expand from food processing upwards to food production. Robotic harvesters and meat processing robotics are already on the way to reshape the human-nature relationship through agriculture. Unmanned aerial vehicles (UAVs), commonly known as drones, have also been widely used to collect spatial data for precision farming. To address food production in an urban context, advanced technologies have been employed to develop vertical farming to minimise land use by growing crops in an upright setting. These technologies, along with buzz words such as Internet of Things (IoT) and blockchain, have been developed to digitize our existing food systems.

Before crowning agricultural digitisation with the title of the fourth agricultural revolution, it is worth examining the last revolution, the Green Revolution in the 1960s. While the Green Revolution was well-praised for multiplying the yields of grains, especially in Latin America and Asia, its shortcomings are not often raised. The newly developed seeds, with the claim of high-yielding characteristic, did not perform as expected when they were first grown in the Philippines. On the contrary, the situation of hunger and malnutrition was exacerbated in the regions cultivating those varieties. Studies by leading research institutes later revealed that these breeds would only reach their potential when they are planted with extra inputs like irrigation, mechanisation, fertilizers, pesticides and herbicides. The accessibility to capital to purchase these additional applications then yielded unequal outcomes for richer and

poorer farmers. Not only did this lead to socio-economic division, but the growth of more limited varieties also resulted in the loss of genetic diversity. Since the Green Revolution, at least 300 out of 3500 traditional rice varieties have gone extinct, and more than 95% of rice paddies were predominantly cultivated with the high-yielding breeds by 1986.

The unintended consequences of agricultural technology could also be averted if technological innovation is handled with more care. In face of climate change, agricultural practices have to be more sustainable, in terms of both resource use and resilience to extreme weather. To efficiently assist such transition in areas highly vulnerable to climate change, technology is integrated into the comprehensive approach of farming in climate smart villages. Examples of these villages in West Africa use information and communication technology (ICT) to provide real-time weather forecasts and advisories on agricultural practices. The climate smart agriculture hence makes the villages more adaptive to uncertain conditions. To prevent mistakes from the past, it requires thorough consideration and cautious application when it comes to technology, which itself is essentially a neutral tool.

"Ultimately, it's the way human beings, with our vast stores of ingenuity, deploy the power of the technology and tools that makes the biggest difference." – Bill Gates, Co-chair, Bill & Melinda Gates Foundation

Carolina Yang

Carolina is a master's student of Agroecology at Swedish University of Agricultural Sciences. With the background in forestry and resource management, she holds great passion in environmental sustainability, with a focus on sustainable food system.

Photo: Believe Nyakudjara, FAO in Southern Africa

FÖRENINGEN FÖR
UTVECKLINGSFRÅGOR

Magazine.

WRITTEN & EDITED BY FUF LUND, A PART OF THE SWEDISH DEVELOPMENT FORUM