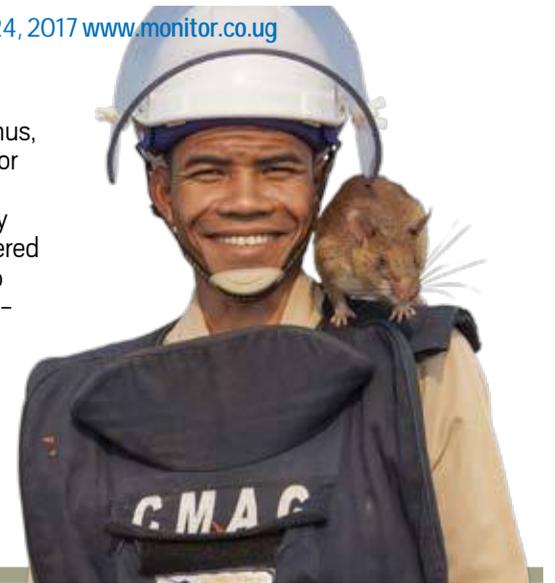


# IMPACT Journalism Day

by Sparknews 

Saturday Monitor JUNE 24, 2017 [www.monitor.co.ug](http://www.monitor.co.ug)

**A Nose for Trouble.** Merry is an African giant pouched rat, or *Cricetomys gambianus*, an exceptionally smart rodent with superior olfactory abilities. She's one of a team of "HeroRATs" bred, trained and deployed by the Belgian nonprofit APOPO, headquartered in Tanzania. After working successfully to help detect mines in Mozambique and Angola, the organization partnered with the Cambodian Mine Action Centre in 2015. ...P.18



## Stories that change the world

**PHENOMENAL.** Today, 50 of the world's leading newspapers will simultaneously publish 60 articles with sustainable solutions for major global challenges.

Beyond the constant stream of negative news, there are many stories of hope and concrete solutions. Stories of change-makers tackling some of the world's most pressing issues with innovative ideas, in order to change the lives of millions for the better. Stories worth reading and spreading, not only to rebalance our view of the world, but to help these existing solutions be replicated worldwide.

The media can play a crucial role in telling the individual stories behind this global movement. That's why for the last five years Sparknews has invited newspapers to take part in Impact Journalism Day, harnessing the power of collaborative journalism to bring stories of change to the surface. Every year these newspapers explore and publish an array of groundbreaking solutions in special supplements on the same day, reaching 120 million people worldwide in print and digital media. Many publications have come to realise the impact of these articles, and now incorporate more solutions-driven stories into their day-to-day coverage of the world.

For the fifth edition of Impact Journalism Day, the media are joined by organizations that believe spreading these stories is a first step toward change. These include the



**Christian de Boisredon**  
Editorial

United Nations as well as One Young World, which annually gathers together 1,500 young leaders from social and corporate sectors who are involved in positive innovations. A large community of well-known personalities and ordinary citizens have also joined the chorus in signing a manifesto to

show that everyone - governments, the private sector, civil society, NGOs and everyday people - can take action for a better future. You, too, can be part of this transformational movement.

Discover those who have successfully brought answers to challenges such as good health, access to water, quality education, decent employment and clean energy. Each serves as a concrete example of the power of individual or group initiatives to help reach the UN New Sustainable Development Goals, to end poverty, protect the planet and ensure prosperity and good health for all.

We hope you enjoy the read...and that you become part of the solution. Sign the manifesto ([sharestoriesofchange.org](http://sharestoriesofchange.org)) and share the stories that impress you most on Facebook and Twitter (#ImpactJournalism, #StoryOfChange, @Sparknews, @YourNewspaper).

- Christian de Boisredon, founder of Sparknews and Ashoka Fellow & The Sparknews Team.



### IMPACT Journalism Day

by Sparknews 

**i** HASHT E SUBH **El Watan** LA NACION AZERNEWS DELO The Daily Star L'ÉCONOMISTE DU FASO 10VOR10-SRF LE SOIR **Le Messager** EL TIEMPO POLITIKEN **KOMPAS** RESPEKT L'ÉCONOMISTE AI Masry Al Youm **LE FIGARO** Mon Quotidien El Heraldo Fraternité Matin l'actu **THE IRISH TIMES** L'Oriont **LE JOUR** *l'express* **EL PAIS** THE NATION FOLHA DE S.PAULO The Asahi Shimbun **T24** DONG-A-ILBO RZECZPOSPOLITA Kommersant **THE STRAITS TIMES** **le soleil** **AJ+ 24 heures** **Le Courier de Russie** THE PHILIPPINE STAR **City PRESS** Tages-Anzeiger **la Region** **KHAO SOD** **USA Today** THE HINDU **Tribune de Genève** The China Post HAARETZ **La Presse** EGYPT INDEPENDENT **Les Échos du Nord** Positive.News **Daily Monitor** H KAΘHMEPINH **CORRIERE INNOVAZIONE** JEUNE AFRIQUE

Today, 50 of the world's leading newspapers are publishing, in more than 40 countries, 60 positive innovations that are changing the world.

#StoryOfChange

# IMPACT Journalism Day

by Sparknews



Brian Turyabagye and Besufekad Shifferaw show off their innovation, the mamaope jacket to be used to detect pneumonia in children. Below, the mamaope jacket.  
PHOTOS BY HALIMA ATHUMANI

## The jacket that detects pneumonia

Wrong diagnosis leads to death which is why tools that help tell the occurrence of a disease are essential.

BY BEATRICE NAKIBUUKA  
The Daily Monitor, Uganda

Six months of coughing and a debilitating fever was too much for Olivia Koburongo's 86-year-old grandmother, whose body had been weakened by other age-related conditions. My grandmother, the 26-year-old says, died of pneumonia that could not easily be diagnosed because of a lack of proper diagnostic equipment. "For six months she kept taking wrong medicine. Several health workers in different health facilities had diagnosed her with malaria. Pneumonia was discovered after a postmortem was conducted when she died," Koburongo reveals.



### Killer ailment

Children and the elderly are especially vulnerable to pneumonia. According to Unicef, pneumonia accounts for almost one million child deaths worldwide every year; 922,000 in 2015 which is 16% of total deaths among children under five years of age. In Uganda, Unicef estimates that the disease kills up to 24,000 children

under-five every year, many of whom were misdiagnosed with malaria. Uganda, like its neighbouring countries, lacks proper diagnostic equipment for many diseases such as pneumonia, therefore health workers rely on basic clinical examinations. It is in this context that in 2014, Koburongo

and four others invented "Mama-Ope" (Mother's Hope): a biomedical smart jacket that detects and analyses pneumonia symptoms among children, with the aim of providing more accurate diagnosis. Koburongo, a graduate of Telecom Engineering from Makerere University, says the

team has developed a prototype that is three times faster than the standard diagnostic process in Uganda. According to co-founder Brian Turyabagye, also a telecom engineer: "The jacket diagnoses, measures the extent to which the disease has affected the lungs and also tracks the progress of the disease since diagnostic information is sharable."

### Milestone

Mama-Ope won runner-up prize in the Big Ideas Innovation competition run by the University of California Berkeley in 2015. The \$6,500 (about Shs 22.7m) prize provided seed money that the team used to develop a prototype.

The team is currently in the process of getting certification from Uganda's Ministry of Health.

According to Dr Flavia Mpanga Kaggwa, a Health Specialist at Unicef Uganda: "The jacket needs to be approved by a regulatory authority to have the possibility of commercial viability. Otherwise I think it would be a great addition to the tools used in diagnosing pneumonia."

Once certification is secured, the team intends to do mass production and supply the jacket to countries in East Africa at a cost of about \$80 (Shs280,000).

In the meantime, Mama-Ope has been gaining supporters around the world - in March this year, Brian Turyabagye won the Pitch@Palace Africa event hosted by HRH The Duke of York in London, England.

"We plan to have the jacket also operate on solar energy which is more reliable for most East African countries," Turyabagye says.

Mama-Ope's founders hope the smart jacket will help in saving diagnosis time and reduce the number of deaths due to pneumonia, which would be a great contribution to the country's Sustainable Development Goals (SDGs) and save the government on wastage of drugs.

### HOW IT WORKS

Traditionally, doctors use a stethoscope to check for abnormal crackling sounds in the lungs. However, if medics suspect malaria or tuberculosis which also cause respiratory distress, they may end up misdiagnosing the patient.

Currently at prototype stage, the Mama-Ope kit is designed to work as follows: health workers slip the jacket onto the child, and its sensors pick up sound patterns from the lungs, temperature and breathing rate. Each sensor is aligned to a particular symptom and in four minutes, data is computed and sent to a mobile phone application which does the diagnosis.

"The processed information is sent to a mobile phone app (via Bluetooth) which analyses the information in comparison to known data so as to get an estimate of the strength of the disease," explains Turyabagye.

According to studies carried out by its inventors, the jacket can diagnose pneumonia up to three times faster than a doctor, and reduces human error. The Mama-Ope team has also hired private medical researchers from Makerere University's Infectious Disease Institute to test their prototype, and sought guidance from Unicef. Dr Namwase, a paediatrician at Mulago National Referral Hospital, said the device is "easy to use because there are not so many processes involved but also does not require special training to the health workers."

After displaying the result on the app, the technology goes on to advise on the appropriate action, e.g. if the disease is severe, it advises the user to reach out to the nearest referral hospitals. The beauty of this is that the doctor can gauge the severity of the disease from the point it was first diagnosed by using the information stored on the cloud.



# IMPACT Journalism Day

by Sparknews

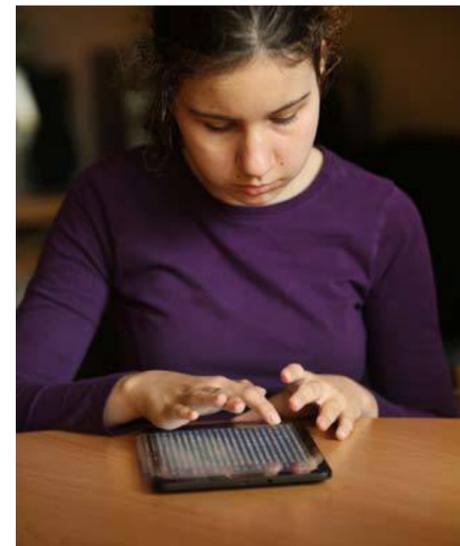
## Feeling life under your fingers

BY MARI FUJISAKI  
Asahi Shimbun, Japan

The blind and visually impaired can be very skillful at using tablets and smartphones with touchscreens but they are not able to see object shapes on one-dimensional surfaces. The digital agency 4WEB from Slovenia has developed and patented the Feelif multimedia device which enables the blind and visually impaired to feel these shapes.

The device consists of a tablet, a relief grid placed over the screen, and an application. It applies vibrations, sounds, and voices to help users identify shapes displayed on the tablet screen or which they drew themselves. The small elevated points on the grid allow for better orientation as the user slides his or her fingers on the screen.

The application makes it easier for the blind and visu-



A visually-impaired child using Feelif technology. PHOTOS BY JURE ERZEN.



The device consists of a tablet, a relief grid placed over the screen, and an application.

ally impaired children to learn Braille and geometrical functions. But the developers of the Feelif device are also looking for ways to apply this technology to adults.

They are testing a device on the Slovenian market and the first users will receive it within a month.

The Feelif device costs 500 euros. "When we are sure that the product is at an excellent level, we will make it available on the global market: first in European countries, and later in the USA," says Katarina Pavšek, a member of the 4WEB team. There are about 14 million potential users of

the device in both markets, and 88 million potential users worldwide.

The company is also developing an open platform which will create a network of people linked to the blind and visually impaired, and that will facilitate the sharing information.

### We are living a story of change

Around the world, there is a movement  
of ordinary people making a difference every day.

An illiterate Burkinabe farmer who managed to stop desertification thanks to a traditional farming technique. A German doctor who turned a disability into a talent, training blind women to detect breast cancer earlier than any gynecologist can. A 26 year-old Indonesian medical student who tackles poverty and waste by offering the poorest to trade trash for healthcare.

Solutions exist everywhere to create a world where sustainability and profits are compatible, inclusive democracy is restored, citizens from all over the world have access to education, healthcare and appropriate food, men and women have the same rights, and climate change is controlled.

If you believe that people don't need to wait on others  
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If you believe that building this world starts by changing  
the way we talk about it, restoring confidence and inspiring everyone.

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Sign this manifesto on [sharestoriesofchange.org](http://sharestoriesofchange.org)  
and commit yourself to spreading these stories of solutions,  
help them cross borders and have a greater impact.

Join the movement

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Today, 50 of the biggest newspapers in the world will publish in 40 countries, 60 positive initiatives that respond to pressing global issues.

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#ImpactJournalism

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# IMPACT Journalism Day

by Sparknews

## They get ink from car carbon

**PAINT FROM AIR.** As the engine of one's car runs, one can never imagine that the fumes could make something as useful as ink.

BY JACOB KOSHY  
The Hindu, India

Even air pollution can yield something positive, such as the beauty of art. When soot spewed by vehicular tailpipes is captured, it can be turned into art material. Which is what Gravy Labs, a Bengaluru-based start-up, is doing with one of the perils of the modern age: vehicular pollution.

For some years now, the company has been working on an innovative method to trap soot from vehicles and transform it into ink.

The team of industrial and automobile engineers, computer scientists and design enthusiasts developed a proprietary, retrofit device — called Kaalink — that can be attached to a vehicle's tail pipe to filter out residual soot. This is then chemically processed and turned into a purified carbon pigment that in turn becomes Air-Ink.

The unit captures 95% of the particulate matter emanating from the engine without inducing back-pressure in the vehicle. Kaalink is currently undergoing certification and being tested in several pilot demonstrations. The unit is designed to work on Indian roads and fitted with heat and water-proof electronics and materials.

Gravy's products turn the darkness of pollution into bold strokes. Their range currently includes marker pens with tips of various thicknesses, which respectively contain from 40 up to 130 minutes of captured diesel car pollution. In the future, the 'art

from pollution' series will include oil-based paints, fabric paints and outdoor paints.

Soot is mostly made up of fine black particles and carbon produced by incomplete combustion of fossil fuels. The particles are extremely tiny: 2.5 micrometres or less in diameter which is smaller than dust, and linked to public health: causing a variety of respiratory diseases, and even cancer.

The problem of fine particulates is growing universally. A Greenpeace report released earlier this year found that 90% of Indian cities it studied had pollution levels over prescribed standards. Data for the year 2015 analysed as part of this study showed that 154 of 168 cities had an average Particulate Matter level higher than the national standard. None of the cities had air quality matching the standard prescribed by the World Health Organization.

Delhi was found to be the most polluted city, with the annual average for PM10 being 268 micrograms per cubic metre, which is more than four times the 60 micrograms/cubic metre limit prescribed in the National Ambient Air Quality Standards of the Central Pollution Control Board.

Anirudh Sharma, a co-founder, has said that he conceived of the Air Ink idea during a stint at the Massachusetts Institute of Technology - Media Lab.

At first, the idea was to build a handheld printer that prints from being tested in several pilot demonstrations. The unit is designed to work on Indian roads and fitted with heat and water-proof electronics and materials.

"We thought what if we could use it as a pigment for colouring? We tied up with several designers, artists, chemists, and automobile experts to make this a reality. Since then, we have made a significant effort to bring this concept to reality," he told



The Gravy Labs team getting their hands messy Gravy Labs. COURTESY GRAVITY LABS



The contraption that captures car pollutions.

The Hindu at the time.

### Search for funds

Currently the company is on a 'Kickstarter' campaign, which is a crowd-sourced operation that allows people to pledge a certain amount of money to support innovative services or products. "People from all over constantly ask us how they can get

their hands on AIR-INK and use it in their everyday lives. But at this time our pollution capture process is very labour intensive and can only happen on a very small scale. This campaign will allow us to scale up and make AIR-INK more widely accessible," the company said in a statement.

Having filed for patents, the company plans to expand beyond auto-

mobiles and branch out into collection of soot from different sources of pollution such as chimneys and generators. And of course fit Kaalink capture devices to as many vehicles as they can.

Nikhil Kaushik, director at Gravy Labs and a chartered accountant by training, said the company would continue to be focused on ways to reach artists and convince them that they would be doing their bit for the environment by using soot-based ink. The other major effort is to tap large vehicles. "We are in talks with several large cargo fleets to be able to harness their engine soot," he said in a phone conversation with The Hindu.

In a February interview to technology magazine Wired, Mr. Sharma said the company has installed 75 kits and captured about 100 kg of Particulate Matter, which can go to make 1,000 litres of ink. "Even if just 15% of the world's black ink supply is replaced with Air Ink, we could end up sequestering a lot of air pollution," he said. The company claims that it has so far captured 1.6 billion micrograms of Particulates which equates to cleaning 1.6 trillion litres of outdoor air.



employed Lebanese develop innovative solutions for the problems their communities face. The ultimate aim is for the projects to become profitable, so that these youth are able to take their lives into their own hands.

Beneficiaries of the project look through some of their work.

## NAWAYYA PROJECT: THE LEBANESE PROGRAMME TAKING ON YOUTH UNEMPLOYMENT

BY MARC-ANTOINE PELAEZ  
L'Orient-Le Jour, Lebanon

In 2009, young Lebanese-American Zeina Saab met Nadeen Ghosn in the isolated Lebanese village of Chmestar. The unabashed 14-year-old spontaneously presented Saab with a collection of her drawings; a series of elaborate fashion sketches. Nadeen had never

even learned the basics of fashion design. "When I met her, I knew that she could one day become the next great fashion designer."

But without means or resources, her talent would probably never be cultivated", says 33 year-old Saab. After that Zeina had but one obsession: to help disadvantaged youth pursue their passions. In 2012, she founded the Nawayya Project, an

NGO that, through its "Talent Programme", connects underprivileged youth with skilled mentors and professionals.

With the help of financial investors, institutional partners and anonymous donors, Nadeen, the first beneficiary, enrolled in a Lebanese fashion school. Nawayya recently established "Impact Lab", a new project that helps young un-

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BY ERONIE KAMUKAMA  
The Daily Monitor, Uganda

When non-profit Impact Carbon was first introduced in Uganda, it sought ways of advancing the production and quality of improved, clean-burning cook stoves as a way to mitigate carbon emissions and reduce indoor air pollution.

As operations at Impact Carbon progressed, there was a realisation of the need to simultaneously introduce water purification systems.

"We found that we could also look into introducing water purification systems as a channel to reduce consumption of wood based fuel so instead of having to boil water and use lots of wood which has a negative impact on the environment, households and institutions could use purification systems," Mark Turgesen, Director of Impact Carbon and Impact Water in Uganda explains.

In 2012, Impact Carbon carried out a pilot study to identify how it could help schools in particular, primarily because it would allow the organisation to deal with a large population that needs safe drinking water and more so because children are part of the most vulnerable people in society.

### Large scale problem

Statistics from Water.org, an organisation that provides water solutions on a large scale and operates in 14 countries around the world, indicate that about 8 million Ugandans cannot access clean water. According to Turgesen, children have a right to survival and part of survival is adequate food, adequate water and proper shelter.

"It should be accessible not for children to just meet their basic rights but to also enjoy the health implications which can affect attendance rates at school and attention in class," he says.

The Water and Sanitation Programme Africa Region (WSP-AF) reported that 440 children die every week in Uganda because of waterborne diseases. Impact Carbon estimates that 40 per cent of diarrheal cases are attributed to water consumption at schools.

However, amidst all this, one thought lingered on the minds of the team at Impact Carbon.

"Do we offer free water purification systems to schools? Is that sustainable? What could we do that would have a profound impact to ensure that when we have introduced these systems, we are able to maintain them," they wondered.

The solution lay in operating the project as a business. More so, buying the systems would encourage schools to own the responsibility of carefully utilising and maintaining them. The idea birthed Impact Water which was registered in 2015, a social business that provides reliable safe drinking water to Uganda's institutions.

### Response

Mr Turgesen says the response from schools is the same as when



Students queue up to get safe drinking water from the Impact Water Ultraviolet purification system. Below, Mr Mark Turgesen, Director of Impact Carbon and Impact Water Uganda.

PHOTOS BY ERONIE KAMUKAMA

## Providing safe drinking water solutions at scale

Impact Water opened shop in 2015.

"The response is, 'when can I get started?' It is because schools are looking for solutions because they know it is a problem," he notes.

This was the case for Mr Adam Kakembo, a teacher and sanitary master at Kawempe Muslim Secondary School in Kampala. Kawempe now has three Impact Water systems and consumes about 4500 litres of water a day. Kakembo explains that before the installation of the purification systems, "We would boil 300 litres for the boys and about 200 litres of water for the girls in the students' kitchens. We would consume about three to four lorries of firewood per week."

Kakembo notes that besides the cost implications, the water boiled in this way was inadequate, unreliable and laborious to supply. The students "would get water only during lunch time. Sometimes firewood would get wet and we would go three days without boiling water. Also, we would store the water in saucapans which exposed it to contamination," he says. Today the school's story is similar to that of Kibuli Secondary School, another beneficiary in Kampala. The deputy head teacher

### THE PROCESS

The water goes through a three stage process. For the first part of purification, Impact Water connects its Ultraviolet purification system to existing water sources such as national water taps, wells, boreholes and rain water harvest. The water is then filtered to remove dirt and large pathogens. To make it taste fresh, activated carbon purification removes dissolved substances and improves the odor. The water is then treated in the ultraviolet chamber to kill all bacteria and viruses that pass through the filters. The filtered water is finally kept in stainless steel tanks designed for schools.



Hajjati Masitula says the system is convenient and provides easy access to safe water.

### Anchored by affordability

Kakembo says safe drinking water is now always available, the system is energy efficient and affordable; the costs can be met within the confines of the school's budget. Cases of typhoid have also been reduced. "Any school can afford it. The barriers between those who have the system and those who do not is the information gap," Kakembo adds. This is possible because when business commenced, Impact Water sought a new way to make the water system affordable for schools. It put in place a credit facility that allows schools to pay over a two and five year long payment plan, each child paying an average of Shs800 per term.

Since Impact Water's inception, 650,000 students in 1300 schools have been able to access safe drinking water thanks to its systems. Impact Water is looking to expand further in institutions such as health facilities by specifically targeting bulk sales with non-governmental organisations and via partnerships with school associations. For now, the company hopes to extend safe drinking water to 1 million children daily by the end of 2017, reach 5000 schools in Uganda by the end of 2018 and 10,000 schools globally by the end of 2020.

"Down the road five to ten years from now, I hope that with these meaningful engagements - with school associations for example - that safe drinking water will be expected in the school and that when a parent takes their child to school they know safe drinking water will be available just like food," Turgesen says.

# IMPACT Journalism Day by Sparknews

## Screening for women can save lives

**CRUCIAL.** Women need to be encouraged to screen early for cancer so as to increase chances of healing.

BY JOANNA STAWICKA  
Rzeczpospolita, Poland

People often think that cancer, and especially cancer that affects women, only impacts the older generation, while younger, active cancer patients are isolated exceptions," says Ida Karpińska, head of the Kwiat Kobiecości (Flower of Womanhood) society. That was also what she believed, before being diagnosed with cervical cancer. "I was 30 years old and working as a graphic designer at a publisher," she remembers. "But there were plenty of other young people." The youngest patient with cervical cancer she knew was only 16 years old.

Ida was able to fully recover from the tumor because it was detected early enough. She regularly went for cervical screening. Unfortunately, the majority of women in Poland skip these prophylactic tests, and when Ida realised this and reflected on her own situation it impacted her greatly.

### Late discoveries

The statistics are clear: even though the government will pay for a prophylactic test once every three years, as many as 80 percent

of women don't make use of this opportunity. As result, the cervical cancer is discovered too late, and half of every ten women in whom it is detected every day die, according to the Polish Oncology Association.

The National Cancer Registry states that Poland has one of the highest morbidity rates (an incidence of about 3,000 people per year) and fatality rates in Europe. The number of women dying of cervical cancer in Poland is 70 percent above the European Union average. Furthermore, experts from the World Health Organisation (WHO) believe that almost 100 percent of cases are due to the human papillomavirus (HPV), and this debunks the idea that cervical cancer has a genetic origin.

"People are now more informed about cervical cancer, but 11 years ago when I got it, it was hardly mentioned. Nobody talked about diseases from the waist downwards. At that time the big movement was about women who had mastectomies. My aim is to provide the same level of support for women who are struggling with cancers in the reproductive system," explains Ida.

This was how Kwiat started in 2006. The organization aims to raise awareness of cervical cancer and to support women who are struggling with the condition. "Kwiat is one positive outcome of my illness", Ida jokes. Kwiat's main office in Bielany, Warsaw, now has six staff members and two midwives. In addition, it



Women attending one of the conferences. COURTESY PHOTO

has coordinators in 16 branch offices. Over a hundred volunteers also help out.

### Public campaign

The number of people involved in the organisation increased dramatically following a new publicity campaign and more women are giving maximum publicity to cancer prevention. "The worst feeling is when we hear that a patient whom we've been helping has lost the battle against cancer. It really gets us down and we regret not having been able to reach out to her earlier before the cancer started to develop," Ida explains. She adds that with early detection the guarantee of successful treatment is almost 100 percent. When the cancer is caught at an early stage and the surgery is not very invasive, these women even have a chance of having a baby.

Ida's most important campaign for the past 8 years is called "Beauty in health" in which she

**4,700**

**THE NUMBER OF COUPONS IN WOMEN'S MAGAZINES AND ON INTERNET SITES FOR FREE GYNECOLOGICAL SCREENING.**

tries to convince women to make time for a thorough gynecological screening check once a year. Part of the campaign involves mobile testing units. This is a brilliant solution because the test itself takes only two minutes, which means that women can drop by and be screened without having to arrange a doctor's appointment. And you don't even have to have health insurance to take a test in the mobile units. "The mobile units screened 308 women in Warsaw this year. One in ten were found to have tumors," she says.

Kwiat has also issued 4 700 coupons in women's magazines and on internet sites for free gynecological screening. "Our suggestion is to go for cervical screening on their birthdays, as a present to themselves," Ida explains.

Kwiat has other activities like the St Nicholas' Day campaign when women visit patients in hospital with gynecological cancer. "It's very important to take an interest in patients. Unfortunately, some of the women in the wards get no visitors. We bring them cosmetic items - lotions, creams, tissues. At the end of the day they are still women, and caring for themselves help them feel better."

The organisation is not just for women with cervical cancer. Women with ovarian cancer can also find help at Kwiat. "We are busy throughout the year, not just during campaigns, and we're always there to support anyone who asks for it. We work not only with doctors but also with psychologists and sexologists. This is how we give women all-round help."

# IMPACT Journalism Day by Sparknews

## A NOSE FOR TROUBLE

**VALUABLE:** Giant mine-detecting rats are saving lives and protecting livelihoods in Africa and Southeast Asia.

BY LAUREN CROTHERS  
Sparknews, France

Merry usually wakes before the sun rises and is driven to work along with 11 of her colleagues. They work for a few hours, napping between shifts. Her job, detecting landmines and other unexploded ordnance (UXO), requires a laser-like focus. It also helps that at about a kilo in weight, she's very light of foot.

Merry is an African giant pouched rat, or *Cricetomys gambianus*, an exceptionally smart rodent with superior olfactory abilities. She's one of a team of "HeroRATs" bred, trained and deployed by the Belgian nonprofit APOPO, headquartered in Tanzania. After working successfully to help detect mines in Mozambique and Angola, the

organization partnered with the Cambodian Mine Action Centre in 2015.

Cambodia is one of the most mine- and UXO-contaminated countries in the world. The impact on communities has been nothing short of devastating. According to the latest figures from the Cambodia Mines/UXO Victim Information System, more than 64,000 casualties were recorded between 1979 and February of this year.

Tethered to a cable and attached to handlers on either side, the HeroRATs work the ground with their noses, sniffing for TNT. They are able to check an area the size of a tennis court in 30 minutes, much faster than a person with a detector.

"The impact has been big," said Vendeline Shirima, APOPO's international mine-detection rats supervisor from Tanzania. "We never miss mines using rats."

For more info about APOPO go to - [www.apopo.org](http://www.apopo.org)

If you would like to support APOPO why not adopt a HeroRAT?



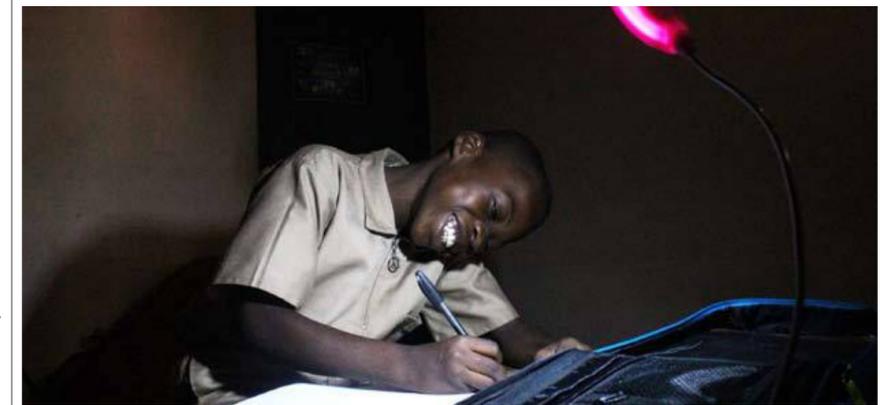
BY KAMAGATÉ ISSOUF  
Fraternite Matin, Ivory Coast

## Change lives with a solar backpack

Little Michel Koutouan's parents are praising him for his grades in school which have been on a steady incline recently. From a 5 out of 10 (50%) average, his marks have risen to a GPA (grade point average) of 7 (70%). Even if Michou, as his parents affectionately call him, bask in the pride of his family, he readily admits that he owes it all to the solar backpack called "Solarpak". Michel doesn't have electricity in his home in Songon village, west of Abidjan. But this young schoolboy had the opportunity to be among the 50 beneficiaries of bags distributed in the area. Following in his footsteps, other students from the nearby village of Grand Aféri in the southeast region of the Ivory Coast who also received the Solarpak, have improved their academic performance as well.

Evariste Akoumian is the man behind these solar bags and the creator of the Solarpak. The idea came to him while he was delivering computer equipment and office supplies to remote villages around the country. Stopping in a small village with no power, he realized that once night fell, the children, having no light source, would have difficulty learning their lessons and doing their homework.

We said to ourselves that in Africa we have lots of sunshine which is free! Let's figure out an easier and more efficient solution to help these children so that they can have better academic results," he explains. According to him, with the Solarpak, the child is autonomous. "Students can manage their own study time. The storm lamp



Above, a child doing his homework under the light of a Solarpak. Left two boys walking to school with their Solarpaks. PHOTO BY EVARISTE AKOUMIAN, SOLARPAK



is usually used by family members for the household needs, and is sometimes kept by the father of the family, disrupting the child's study time," Evariste says.

Evariste Akoumian wants to level the playing field when it comes to access to electricity.

As a result of a lack of funding, this start-up has to share an office space with Thierry Doffou, another young inventor who created "Quelasy", an educational tablet that aims to improve the learning process of training.

It is here that Evariste designs his solar bags: each one has a solar

battery of 3 watts that is attached to a battery that recharges using sunrays. The energy stored up during the day provides power to a LED lamp that is connected to the battery via a USB port, and that can provide up to three hours of light.

It took Evariste two years of research and six months of field-testing to finalize the product. He then distributed 500 free solar bags in four localities of the Ivory Coast. "I used the profits of my computer hardware business to fund Solarpak.

We have invested more than 50 million CFA francs (76 000€)," he says. He has high hopes for the project:

To provide easy access to electricity in Africa, where 700 million people live without power. This challenge, as Evariste knows well, is not easy. "When things are difficult one must not give up. On the contrary, we must have perseverance and courage, because nothing is easy."

Solarpak has drawn the attention of interested parties, among them the Minister of National Education, Kandia Camara, and even the Ivorian music group Magic System. Evariste is a busy man and his phone keeps ringing during our conversation.

He was a finalist in the Global Social Venture Competition (GSVC) Francophone and took part in the final event in Berkeley, California in April 2017. The young inventor finished in the top 10 of this prestigious American award, which drew entries from more than fifty countries, and he is pleased with this result given that it was his participation in such a big competition.

Despite the generosity of the US Embassy in the Ivory Coast, that has spread the word about Solarpak, Evariste currently has no external financial support for the sale of his solar bags, which cost 12,000 Cfa each (18€, taxes included). At the moment, he is importing the bags and small solar panels from Asia and assembles them in the Ivory Coast. "We plan to raise funds to establish an assembly plant that will take care of all the materials. Then we will not only bring electricity to those who don't have access to it, but we will also create jobs in our country."

## THE WOMEN COOKING THEIR WAY TO INDEPENDENCE

BY SUYEON KIM,  
Dong-Ailbo, South Korea

South Korean-based social enterprise OYORI ASIA was initiated in 2008 with the aim to "help marginalized women through the restaurant business," according to founder and CEO Jihye Lee. The company has since trained women across three Asian countries, helping them find their feet again.

Vo Thi Ngoc Nhon (37) became the first entrepreneur produced by Oyori. In 2006, Ngoc Nhon migrated to Korea and gave birth to a child soon after. However, her marriage did not last long due to her husband's gambling addic-

tion. In 2010, she found herself alone with her son, without divorce alimony. Two years later, Ngoc Nhon met Jihye Lee. She received four years of systematic cooking training from the head chef of Oyori, and finally gained a cooking license in Korean cuisine after 19 attempts. Last year, she opened a Vietnamese restaurant called 'Asian Bowl'. Her dream is to fully settle in Korea while making food from her homeland with other women like her.

The ultimate goal of Oyori is to support women like Ngoc Nhon to become self-reliant and live their lives. Lee first opened a restaurant with the conviction that the easiest point of entry for socially-vulnerable



Oyori Asia CEO Ms. Jihye Lee is posing for a photo in front of Spanish restaurant Teranno. PHOTO BY YEONG WOOK BYEON

immigrant women without educational backgrounds or personal networks would be the restaurant business. Lee is also interested in the development of local franchises of Oyori for women in underdeveloped nations. One such franchise is "CaféMitini", launched in 2013 in Kathmandu, Nepal.

The efforts of Oyori are bearing fruits. Dawa Dabuti Sherpa, who has worked at Café Mitini for four years and first joined as a trainee, has finally realized her dream. Expect the opening of 'Café Mitini No.2' in July this year, she said. "I dream of becoming a good barista through the program. I would like to open a big café in my homeland, Nepal, in the future."

[www.oyori.asia](http://www.oyori.asia)

# IMPACT Journalism Day

by Sparknews 

**HANDY.** In Central Java, villagers are making (and using) biogas from tofu waste.

## TOFU power to light homes

BY MEGANDIKA WICAKSONO,  
Kompas, Indonesia

**F**arm solutions. In Central Java, villagers are making (and using) biogas from tofu waste.

White smoke billows from the kitchen at the house of a 52-year old woman, Tumirah, a tofu maker in Kalisari village, Banyumas, in Central Java. Burning wood boils the soybean stew in a large stove called a kawah, or crater, by the locals.

In one day, Tumirah can process 80 kg of soybeans to make yellow tofu, which also produces 30 buckets—or 600 liters—of foamy, smelly wastewater. The wastewater was formerly discarded, but now it is piped to a digester container about 300 meters from Tumirah's house and processed into biogas. The biogas is then channeled through a smaller pipe to Tumirah's house to light the stove for cooking her daily necessities.

Tumirah said her family has been using biogas to cook for three years, as opposed to liquid petroleum gas (LPG). "The flames are good and I prefer using biogas rather than an LPG canister for fear of explosions." She also claimed it helped her save money, since she only needs to drain wastewater from her tofu production and pay Rp 15,000 per month to the biogas installer for pipeline maintenance and biogas management.

### More than food

According to the chief of the Kalisari village, Aziz Masruri, the village has been known as a tofu-producing center since the 1970s. The tofu from the village is chewy and solid, but not sour.

In the village, which has a population of 4,671 people, there are 250 tofu makers. On average each



tofu maker processes 50 kg of soybean per day and can produce 1,500 pieces of tofu. The liquid waste can reach seven liters for every kilogram of soybeans.

Rifda Naufalin, a lecturer in food sciences and technology at the University of General Soedirman's Faculty of Agriculture, said tofu liquid waste contains vegetable protein, vinegar and organic acid. It has a slightly acidic pH content. "If the organic material is fermented, it can produce methane gas that can be used for cooking," she said.

Naufalin said untreated liquid wastewater has a pH of 4-5, which can kill fish and cause rice crop failure. The organic materials, if not managed properly, will decay and produce ammonia gas that emits a bad smell.

In the past, the village's tofu makers dumped the wastewater into the river, causing serious pollution and turning the water dense,

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**THE NUMBER OF TOFU MAKERS IN THE VILLAGE WHO PIPE THEIR WASTEWATER TO THE DIGESTER CONTAINERS, WHICH GENERATE BIOGAS FOR 210 HOUSES.**

The biogas processing unit is built in the ground. PHOTOS BY KOMPAS



smelly and foamy. "It used to be a dirty river. In addition to being unsightly, the smell was so strong," Masruri said. In one day, about 70,000 liters of liquid waste were dumped into the river.

### Interventions

The pollution problem was resolved by the construction

of five wastewater treatment plants, which were built in phases between 2010 and 2014 with the help of a number of institutions including the Research and Technology Ministry, the Central Java Environment Agency, the government of Banyumas Regency and the local community. "Now, 142 of the village's 250 tofu makers

pipe their wastewater to the digester containers, which generate biogas for 210 houses," Masruri said.

According to Naufalin, the sustainability of biogas production must be maintained by training and improving the skills of residents to manage wastewater treatment plants. Currently, the wastewater treatment plants are managed by five groups from Biolita I to Biolita V.

Masruri acknowledges there is still weak coordination and management among group members so the maintenance and utilization of biogas is not optimal. "For example, in Biolita III many pipes have been damaged and broken. The village has allocated Rp 8 million for repairs," he said.

The same view was shared by Taryo, 54, a tofu maker of Biolita I. Taryo, who has processed 75 kg of soybeans a day for the past two years, is no longer able to use biogas because the stove and pipes are damaged. "We do not use biogas for cooking. The sewer pipes to the digester container were blocked two months ago," he said.

Wardoyo, 42, the manager of the Biolita IV wastewater treatment plant, admitted that problems often occurred due to the large amounts of dirt, wood and leaves in the wastewater container. "Garbage must be removed because it can clog pipes and waste containers."

Nonetheless, many villagers continue using the biogas for their daily needs. Tumirah, the tofu maker, demonstrated how, by opening the gas line connected to the stove, turning on a switch and lighting a match above the stove. A blue flame with a steady blaze immediately appeared. "I sometimes fry some meatballs for lunch with the biogas stove," she said. "In addition to cooking side dishes, it can also be used to cook vegetables and boil water."

## A MAN FROM BENIN HAS SOWN THE SEEDS OF SUCCESS WITH ORGANIC FERTILISER

BY BENJAMIN POLLE,  
Jeune Afrique, Benin

**D**espite the use of mineral fertilisers soaring in Africa (by 130 per cent between 2008 and 2015, according to the International Fertiliser Development Center), the market for natural organic inputs (such as manure, leaves, and compost) remains very small.

This has not deterred Gildas Zodome from setting up his own organic pesticides and fertiliser company, Bio Phyto Collines. It

took Zodome two years to produce the first prototypes - made from a mixture of aromatic plants (eucalyptus, neem seeds, orange, hyptis; commonly known as bush-mint) - finding his inspiration in the pest control and fertilisation methods used by his ancestors.

According to Zodome, "On a one-hectare rice paddy, we measured an average production of 4 tonnes of rice with our products compared to 3 tons using chemical inputs."

Only Zodome's best-performing pesticides and fertilisers are now

being distributed, and his company's three key products are now finding success outside Benin, in Burkina-Faso - where the company has benefited from the assistance of the business incubator La Fabrique - as well as in Niger, Madagascar and soon Togo.

Bio Phyto Collines produces 400 tonnes of organic fertiliser produced annually and 15,000 liters of organic pesticides.

The company has reached a turnover of 100 million CFA francs (150,000 euros).

biophyto-benin.com/

