

# D+C

MONTHLY E-PAPER

DEVELOPMENT AND  
COOPERATION

ENTWICKLUNG UND  
ZUSAMMENARBEIT

D+C

E+Z

International  
Journal

ISSN  
2366-7257  
July 2018

## PROGRESS

Why Steven Pinker  
argues that things  
are getting better

## EDUCATION

Improving the  
young generation's  
opportunities

## SOUTH SUDAN

How to prevent  
famine in extremely  
difficult circumstances



# Climate change

## Monitor

Peace building at grassroots level in conflict and crisis regions | Trends in municipal development work | Future of evaluation | Digitalisation of work | Nowadays: Brain drain in Togo | Imprint

4

## Debate

Financial crisis in Argentina | In Brazil, civil-society activists increasingly at risk | Constitutional amendment in Burundi | Lower birth rates in Bangladesh | Letters

10

## Tribune

### HANS DEMBOWSKI

Steven Pinker's stunning assessment of global progress

16

### JANINA MEISTER

Quality deficits in many developing countries' education sectors

18

### OKELLO CIRO

Humanitarian crisis due to civil war in South Sudan

20

## Focus: Climate change

### CHINEDU MOGHALU

African Risk Capacity plans to insure 30 countries by 2020

23

### INTERVIEW WITH ERIC REYNOLDS

Plans to transform African energy consumption in an eco-friendly way

25

### MAJALETJE MATHUME

This summer, the taps could have run dry in Cape Town

27

### KARIM OKANLA

Erosion and other impacts of climate change on urban life in Benin

28

### HANS-JOCHEN LUHMANN

Why the World Bank's carbon shadow pricing remains unconvincing so far

29

### MARTIN GEIGER

Sustainable business models make business sense

31

### KLAUS GIHR AND FRIEDERIKE BAUER

Transportation transformation is necessary and feasible in Africa

32

### RAISSA ROBLES

In the Philippines, legislation now demands disaster prevention

34

### MADHUCHANDRIKA CHATTOPADHYAY

India's ambitious renewable energy goals

36

### MD REAID ALAM

An digital app can help to install renewable power in Bangladesh

38

## FOCUS

# Climate change

## Protection against disaster

The African Risk Capacity (ARC) takes a promising innovative approach. Its target is to insure 30 countries against drought, flood and cyclone disasters by 2020. Donor governments must contribute funding, explains the ARC's Chinedu Moghalu.

PAGE 23

## Clean cooking technology

Inyenyeri is a private-sector company that wants to tackle two major problems: deforestation and toxic indoor smoke. It was started in Rwanda – but has a pan-African vision to transform energy consumption. Eric Reynolds, the founder, told D+C/E+C about his plans.

PAGE 25

## Impacts of climate change

Sub-Saharan Africa is feeling the impacts of climate change. In Cape Town, planners had reason to fear the taps might run dry this summer, as Majaletje Mathume, a student activist, reports. Benin's coasts are being eroded faster than earlier, writes Karim Okanla of the Houdegbe North American University Benin.

PAGES 27 AND 28

## Lack of ambition

Major infrastructure projects must take carbon emissions into account. International development banks use shadow prices to ensure their funding makes sense. Hans-Jochen Luhmann, a German scholar, appreciates the approach, but finds the World Bank's current shadow pricing scheme far too moderate.

PAGE 29

## Sustainable solutions

DEG's Martin Geiger spells out the business benefits of taking sustainable approaches. KfW experts Klaus Gühr and journalist Friederike Bauer argue that transportation transformation is necessary to protect the climate – and it will unfold in different ways in different countries.

PAGES 31 AND 32

## Innovative approach

Natural calamities were previously seen as one-off events in the Philippines. Now innovative legislation compels authorities to manage and reduce disaster risks systematically, writes journalist Raissa Robles. Scholars Madhuchandrika Chattopadhyay and Md Reaid Alam discuss prospects of renewable power generation in India and Bangladesh.

PAGES 34 TO 39



# Drawing the right lessons

They were called Maria and Irma, Harvey and Jose: last year, four hurricanes of the top categories four and five devastated Caribbean islands and coastal areas in the Gulf of Mexico. Several minor storms caused death and damage too.

According to researchers from Harvard University, Hurricane Maria killed more than 4,600 Puerto Ricans. The number is surprising given that the disaster occurred on US territory – the death toll resembles what one would expect in much poorer Southeast Asia: in 2013, Typhoon Haiyan killed 6,300 Filipinos. The White House has officially acknowledged only 64 deaths due to Hurricane Maria. It only counts casualties registered by bureaucrats directly after the storm. The Harvard scholars, in contrast, include everyone who died because of storm impacts, such as failing health care, for example.

The island's power supply collapsed, and many of its 3.4 million people had no access to sufficient food, clean drinking water or medical services and drugs. Critics point out that emergency relief set in too late, the coordination was bad, and measures stayed insufficient. Puerto Rico belongs to the USA, but is not a state. Its citizens do not vote in national elections. It is obvious that President Donald Trump worried more about Texans affected by Hurricane Harvey than about Puerto Ricans affected by Maria.

The hurricane season has started once more in the Caribbean region. The question is what lessons were drawn from last year. Extreme weather events are causing ever more damage all over the world. In some regions, precipitation is increasing. Other regions are becoming dryer. It is imperative to rely more on renewable energies. However, further deployment of these technologies is challenging on Caribbean islands. Wind turbines are not made to withstand high wind speeds, more rain means less sun power, and droughts make rivers fall dry, so the generation of hydro power becomes impossible.

Scientists are working on better weather forecasts. The better storms' paths can be predicted, the more wind turbines can be set up in safe places. Alternatively, wind energy might be harnessed by use of floating or flying devices. Such technologies are available. Hydro power, moreover, may be generated from waste-water channels instead of natural rivers in the future.

Climate change has begun to mark daily life. Three things are essential:

- The development and deployment of new technologies – in order to prevent disasters, adapt to climate change and mitigate global warming. Technological progress has been good in recent years. The international community, and in particular the industrialised countries, must foster and fund further innovations.
- Ambitious climate policymaking: setting ambitious goals will not do, action is needed fast and in a determined way. The UN summit set the path in Paris in 2015. This year's summit in Katowice, Poland must initiate implementation. Humanity is running out of time.
- Adequate prevention: storms, floods and droughts must neither kill people nor destroy livelihoods.

Trump famously quit the Paris Agreement. He is unlikely to subscribe to any meaningful climate agenda. His ignorance has already had devastating consequences for Puerto Rico. For the time being, the world must press ahead without the USA.

► You'll find all contributions of our focus section plus related ones on our website – they'll be compiled in next month's briefing section.



**KATJA DOMBROWSKI**  
is member of the editorial team of D+C Development and Cooperation / E+Z Entwicklung und Zusammenarbeit.  
[euz.editor@fazit-communication.de](mailto:euz.editor@fazit-communication.de)

## Debate



### Democracy in danger

With a strong majority in a controversial referendum, Burundians have approved a constitutional amendment allowing President Pierre Nkurunziza to stay in office for many more years. Members of the opposition – both inside the country and in exile – do not accept the result. They see democracy at risk, but they do not impress those in power, as Burundian radio journalist Mireille Kanyange clarifies.

PAGE 12

## Tribune



### Quality, not quantity

The importance of education in driving sustainable development is hardly disputed. However, simply expanding basic education and school enrolment will not do. In many developing countries, quality deficits persist, so individuals' potentials often remain untapped, as scholar Janina Meister spells out ahead of this year's PEGNet conference in Cotonou.

PAGE 18

### A great tragedy of our time

As the conflict in South Sudan enters its fifth year, millions of refugees and internally displaced persons lack basic necessities such as food and shelter. Aid agencies reckon they need \$ 1.4 billion until the end of this year, according to South Sudanese journalist Okello Ciro.

PAGE 20

EXPERT DISCUSSION

# Laying the basis for lasting peace

In 2015, the UN redefined matters of building and keeping peace. The emphasis is now on the relevance of local-level action for long-term results. The new slogan is “sustaining peace”. Experts discuss the implications at the grassroots level.

By Franziska Wekenborg

The UN General Assembly and Security Council took the new approach of “sustain-

ing peace” in a resolution passed in April 2016. The idea was to boost international peace efforts in order to prevent violent strife from continuing, escalation or re-erupting. The entire UN system is supposed to serve this purpose.

According to the HIIK (Heidelberg Institute for International Conflict Research), the world saw 20 wars and 385 conflicts in 2017, and more than half of the conflicts were violent. Six conflicts actually escalated

into war – in Myanmar, the Philippines, the Central African Republic, Ethiopia and the Democratic Republic of the Congo (DRC). Currently, 65 million people around the world have fled their homes. The number is higher than ever before, the HIIK reports.

Scholars have been pointing out the relevance of local-level action for a long time. Accordingly, the UN has shifted its focus from international action to national and grassroots efforts. Experts discussed the implications at a conference recently hosted by the SEF (Stiftung Entwicklung und Frieden – Development and Peace Foundation) in Berlin.

Andries Odendaal, a freelance consultant based in Cape Town, says that conflicts can only be resolved by the parties to



Children at play in war-torn South Sudan.



those conflicts. Nobody can resolve someone else's conflicts, he argues, and real peace cannot be enforced from above. The people involved in any particular conflict matter, Odendaal insists. They must build peace at the grassroots level.

Various social groups can play a role. Experts agree that women and young people are very important for achieving lasting peace, but they all too often are neglected. There is evidence of peace processes delivering better long-term results if women are involved. Sophia Close of Conciliation Resources, an international agency based in Britain, points out that peace tends to last 35% longer if women actively participate in the process. Simone Wisotzki of the Peace Research Institute Frankfurt adds that societies which value gender equality are generally less violent than those that do not. She admits, however, that it is difficult to tackle

gender issues in some places, because people do not identify with the concept.

Expert consensus is that women matter and should have an equal say in peace processes. Women should not just fulfil some kind of a quota or serve as tokens. It matters, moreover, to involve women from all social groups, since the views and attitudes of mothers, women with disabilities and female combatants are likely to diverge. Moreover, women's involvement must not be limited to education, caring for family members and other issues that are conventionally considered to be women's issues.

### TAPPING THE POTENTIAL OF THE YOUTH

In 2015, the Security Council's Resolution 2250 declared that the role of the young generation must be boosted. About 1.8 billion people around the world are in the age

group ten to 24. Long-term strife affects them in particular. Ahmad Alhendawi, who served as the UN Secretary-general's envoy on youth, reports that 40% of 1.5 billion people living in war zones are children. This means that 600 million girls and boys are growing up in conditions of violence, hunger, displacement and no access to schools.

The young generation matters very much in reconstruction and peacebuilding. But even though its members should be empowered to shape their future, their voices often remain unheard. The UN resolution demands that this must change and that young people must be involved in fighting extremism too. Youngsters can promote innovative approaches, inspire optimism and serve as role models for peers. They can contribute to fostering a culture of inclusion and cohesion, resisting extremism and radical tendencies.

## Local media and violent strife

About 45% of humanity does not have access to free and independent media, according to the most recent Press Freedom Index published by Reporters without Borders. The freedom of expression is mostly suppressed by autocratic strongmen and military leaders. Reporting in war zones and crisis regions is especially dangerous. Journalists' lives are often at risk. Threats and acts of violence are geared not only to intimidating and silencing media workers, but also serve to deny the public independent reporting.

The role of local media in violent conflict was discussed at a recent conference hosted by SEF (Stiftung Entwicklung und Frieden – Development and Peace Foundation) in Berlin (see main story). Since 2010,

the number of crises worldwide has tripled – and violence has intensified in individual conflicts.

Media workers have a role to play in conflict areas and peace processes. As Christian Rickerts, a permanent secretary of Berlin's state government, acknowledges, the truth is among the first victims of any armed conflict, and that only journalists can restore the truth through diligent work. In his eyes, the media must assume responsibility for covering conflicts and dealing with conflict parties diligently.

However, Nicolas Boissez of Fondation Hirondelle, a Swiss agency, points out that many journalists are unaware of what impact their work has on society. Moreover, they are often exposed to traumatising

events themselves. Boissez insists that journalists need to be trained in sensitive conflict reporting and that psychological counselling must be available to them. Otherwise, they will not be able to reach out to all conflict parties and promote dialogue among them. The Fondation Hirondelle supports radio stations in crisis areas, including in the Democratic Republic of the Congo for example. The community radios' mission is to provide independent coverage. The motto is „local media for local people“.

Geraldine Fobang of the Cameroon Community Media Network (CCMN) similarly sees a need for conflict-sensitive reporting. In her country, she says, many people do not trust journalists, and social-media shape the information they get. Many do not even use any other source of information. Fobang says that local journalists must

regain trust and give voices to the disempowered.

William Tayeeba teaches journalism at Makerere University in Kampala, Uganda. He points out that journalists must be paid appropriately. Many Ugandan radio stations and newspapers depend on support from German faith-based organisations like Bread for the World or Misereor. Should such support be discontinued, journalists would no longer be able to do their work, Tayeeba says. In his eyes, it is a huge challenge to ensure sustained reporting in crisis regions.

Experts agree that local peacebuilding depends on continuous, sustained and crisis-sensitive reporting. All parties to a conflict must be given a public platform. Otherwise the general public cannot form an informed opinion. Responsible journalism can make the difference. (fw)

## MUNICIPAL DEVELOPMENT COOPERATION

# Act locally – think globally

In Germany, local governments have been involved in international development for decades, whether through twinning with towns abroad or through one-world and fair-trade initiatives. In June, local-level activists met in Lübeck for the 14<sup>th</sup> Federal Conference for Municipal Development Cooperation. Engagement Global coordinated the meeting on behalf of Germany's Federal Ministry for Economic Cooperation and Development (BMZ).

By Sabine Balk

The "Fair Mosque" project was initiated in Solingen by Redouan Aoulad-Ali from the Forum for Social Innovation. It is active

ly. Aoulad-Ali explains: "It is not made explicit, but there are passages that implicitly convey these messages."

Calling on the Koran helps to persuade his target groups to get involved. The Fair Mosque's most recent success was an event called "sustainable breaking of the fast" in Cologne. Participants enjoyed fair-trade coffee and recyclable dishes were used.

There is a lot of awareness-raising to be done, according to Aoulad-Ali. He admits that he often faces initial scepticism. Typical arguments include that there are "more pressing problems" or "if there is a fair mosque, that implies that others are unfair". Aoulad-Ali empathises with people who react like this. "We have to remember that Ger-

donate to – local-level development initiatives in the countries they came from. Such contacts mean that they can spread ideas concerning environmental protection and sustainability. So far, the Fair Mosque initiative has kicked off projects in four cities: Solingen, Cologne, Düsseldorf and Mannheim. It plans to expand to other places.

There is a whole range of creative approaches to getting immigrants and refugees involved in municipal projects. Their knowledge can be instrumental in awareness raising, for example. Engagement Global (EG) is currently funding pilot projects in six towns, reports Jennifer Ichikawa from the EG's Service Agency Communities in One World (SKEW). She emphasises the relevance of choosing participatory formats and involving grassroots organisations and other suitable partners. Inclusiveness is the road to success, Ichikawa says: "All the pilot projects have been individually tailored to the community and are now being rolled out."

The smallest municipality involved in the test phase is Aidlingen near Stuttgart, home to 9,000 people. Local leaders were invited to workshops that prepared them to pass their knowledge on to the wider community. In the rural district of GiesSEN, young people are taking part in a "potato project": a migrant from Tanzania is teaching them about farming in East Africa. "Participants will get an idea of the global context and international interrelatedness". Hopefully, they will then become politically engaged accordingly.

After weighing the options and long discussions, the city of Hofheim am Taunus near Frankfurt decided to try out a BarCamp. This term is used for series of loosely structured workshops that give more scope for personal interaction than formalised conferences do. Participants discuss issues and generate content for awareness raising which is then further and further refined.

"FairCamp Hofheim" is scheduled for September 21 and 22 and will address "sustainable, fair and social action". The results will be documented in photos and video clips which will be spread via social media.

## LINKS

**Fair Mosque (only in German):**

<http://www.fairemoschee.de/>

**FairCamp Hofheim (only in German):**

<https://www.hofheim.de/leben/faircamp-hofheim.php#toc>



Young Germans learn about farming in Tanzania.

at several levels. The idea is to encourage mosque congregations – and Islamic organisations in Germany in general – to take steps towards sustainability, by contributing to environmental protection and promoting responsible consumption, for example. The Koran offers many important principles that pertain to sustainability. One such principle is to use water and other resources sparing-

many has only been an immigration country for a short time, and that Islam has only recently been understood to be an integral part of Germany." Once he has won a Muslim congregation over, he says, they join in with enthusiasm and generate lots of ideas.

According to Aoulad-Ali, one reason Muslim migrants are an important target group is that they often volunteer for – or



ODA

## Evaluation 2.0

**In the field of international cooperation, evaluation plays an important role in accountability as well as in institutional learning. Experts therefore want agencies to invest more in evaluation. Digital technologies are providing new options. Some of them are particularly useful in conflict regions.**

By Linda Engel

Accountability to taxpayers is becoming more and more important in the context of official development assistance (ODA). That is the assessment of Jan Tobias Polak of the Austrian Development Agency. Unlike, for instance, health services in their own countries, taxpayers cannot personally assess the achievements of ODA. Therefore the results of evaluations are helpful. Internally, however, evaluations primarily serve organisations as learning tools.

In line with the 2030 Agenda, it would be preferable if partners in developing countries themselves evaluated the work of donors in the future. On the other hand, Jörg Faust of the German Institute for Development Evaluation (DEval) says that ODA is still quite donor-driven. He predicts an uptick in competition for evaluation assignments in the short term. Think tanks, universities and freelance consultants are keen on such work, he argued during a discussion about the “Future of Evaluation”. It was organised by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Bonn in May.

Faust also sees a structural problem, given that agencies have so far shown little interest in investing more money in evaluations. Evaluations must be comparable to be useful moreover. Assessing only individual programmes does not deliver very valuable results. To assign research to universities, however, is normally expensive, so agencies prefer to run evaluations of their own. The results are thus not always objective.

Nowadays experts argue less about the right methods than they did a few years ago. Different approaches are taken in different settings – ranging from rigorous impact

analyses based on randomised control trials (RCTs), which rely on randomly chosen control groups, to qualitative methods like group discussions. Expert debate today is focusing on issues that relate to the circumstances in which evaluators work. How will digitalisation change evaluations? And can

nologies (also note article on the next page as well as Martin Noltze and Sven Harten in D+C/E+Z e-Paper 2017/07, p. 16). In the future, they could provide completely new insights into changes in people and the environment and one day even replace surveys.

It will be interesting to see whether evaluations will adapt to the changing parameters of ODA moreover. Ever more projects are being carried out in fragile states. In the future, ODA will increasingly be expected to respond fast to crises, like addressing the causes of migration. But, says Ricardo Gomez of GIZ, it is the planners who are



**In remote or dangerous regions like South Sudan, digital applications could make project evaluation easier.**

standard approaches be taken in context of fragile statehood?

What impacts digitalisation will have is still quite unclear. Perhaps the methods will stay the same, but some elements – for example, interviews – could be done via digital applications like Skype. That would be useful in conflict regions that are too dangerous to visit in person. Another important issue is big data: huge volumes of mostly automatically generated data, which are gathered and stored with the help of digital tech-

fundamentally responsible for designing projects in ways that fit the circumstances. Moreover, they must discuss the risks with their paymasters.

An important key word is transparency. For programmes that aim to achieve immediate results, concurrent evaluations could be useful – both in order to keep policymakers informed and to improve project management. In general, however, the most efficient approach will still be to evaluate most projects at the end, says Gomez.

## DIGITAL TECHNOLOGIES

# Endangered employment

Digital technologies will fundamentally transform the way goods and services are produced, argues a new paper published by the German Development Institute (Deutsches Institut für Entwicklungspolitik – DIE). While the trend will predictably lead to job losses, additional employment is uncertain. Policy-making can make the difference.

By Monika Hellstern

The digital revolution will disrupt production processes, argues author Wilfried Lütkenhorst. He speaks of a “new general purpose technology” comparable to the steam engine or electricity in earlier industrial revolutions. General purpose technologies are applied across various sectors. They change how companies operate, modify value chains and make new business models necessary.

According to Lütkenhorst’s DIE publication, “digital enablers” are driving change today: big data, cloud computing and the internet of things (IoT).

- Big data refers to vast amounts of data that exceed the capacities of conventional data-processing software. More advanced software, however, serves to reveal the hidden value by analysing patterns and inter-relatedness in the datasets.
- Cloud computing is a response to big data. It provides the infrastructure for storing and processing data. Businesses no longer rely on their own computer hardware, but on a network of remote, internet-hosted servers. Cloud computing reduces costs and gives companies additional flexibility.
- The IoT connects physical appliances to the internet, facilitating interaction between them. Industrial machines thus become able to learn. The results include better products and a more efficient production.

Based on these enablers, according to Lütkenhorst, three innovative approaches to industrial production are being taken:

- Additive manufacturing – the building of 3D objects layer by layer – means that previously separate manufacturing opera-

tions are integrated into a single one. A single skilled worker can handle it.

- Automatised machines and systems are gaining relevance. Ever more robots are being installed.
- The interaction of human beings and machines is changing. Especially in the automotive industry, workers are increasingly training robots. Research is being done to improve “human-robot team fluency”.

The impacts of the digital revolution are manifold. Manufactured goods will in-

managing supply systems that depend on renewable energy. He argues that the reaping of sustainability dividends will depend on appropriate legal frameworks and financial incentives.

Germany has adopted the “Industrie 4.0” programme to shape the digital revolution, as Lütkenhorst writes, and other countries worldwide are pursuing similar strategies. His study concludes that strategic industrial policy is necessary to ensure that the currently largely technology-driven process is geared to societal goals. Lütkenhorst is in favour of policymakers considering and testing innovative approaches like a universal basic income or a machine tax.

The implications for developing countries are not easy to discern, Lütkenhorst writes. Studies suggest that more than 70 %



A solar-powered robot equipped with cameras and lights controls traffic in Kinshasa, DR Congo.

creasingly require or become interwoven with services. One consequence Lütkenhorst foresees is that industrialisation may become a less likely development path for low-income countries. He argues, moreover, that job losses are predictable in some sectors – or have already occurred. The scope for new employment, however, is less obvious. At the same time, rising income inequality is set to hollow out middle classes.

In spite of the risks, digital technologies are certainly promising. There are many potential environmental benefits, according to Lütkenhorst, for example in

of the workers in the Thai auto industry may lose their jobs. Similar estimates have been made for other sectors and countries in the region. On the other hand, productivity and employment gains are possible. Lütkenhorst cites examples of growing IT sectors in Kenya and Rwanda.

## LINK

Lütkenhorst, W., 2018: Creating wealth without labour? Emerging contours of a new techno-economic landscape.

[https://www.die-gdi.de/uploads/media/DP\\_11.2018.pdf](https://www.die-gdi.de/uploads/media/DP_11.2018.pdf)



## Doctors go abroad

Brain drain is a major challenge for Africa. Skilled professionals prefer the better living and working conditions of developed countries to the meagre wages and miserable life in their countries of origin. The brain drain is most severe in the health sector.

On average, there is only one doctor for every 5,000 people in sub-Saharan Africa. It is the most underprivileged area in the world in this sector, according to the World Health Organization (WHO). A global comparison reveals that in sub-Saharan Africa there are 40 times fewer doctors per capita than in Qatar, 35 times less than in Cuba and 26 times less than in Spain, according to the WHO. The density of doctors in Africa varies from country to country.

One reason for this medical vacuum is related to the education system.

According to the Institute for the Study of Medical Schools in Sub-Saharan Africa, there are only 170 medical schools on the entire continent; 20 countries have only one medical school, and six have none at all. In addition, a significant proportion of health personnel trained in Africa migrate to Europe and North America for better jobs or better pay.

Osahon Enabulele, a former president of the Nigerian Medical Association, estimates that there are about 8,000 Nigerian doctors in the USA. In Nigeria, on the other hand, 35,000 medical doctors have to attend to a population of 190 million people. In France, there are more Togolese medical doctors than there are in Togo, according to Kokou Adambou-nou of the CHU Campus Lomé hospital. "60 % of Togolese doctors practice in France," he says, adding that these emigrated doctors could help their colleagues in Togo via telemedicine. "The skills and infrastructure exist. It lacks the political will. Health authorities must invest in telemedicine," he insists.

There is a mismatch between training and employment opportunities in Africa. According to the Yearbook of Health Statistics of Togo 2016, there are 347 doctors, including 251 specialists and 91 general practitioners, 31 health psychologists and 13 health personnel training institutions for a population of more than 7 million.

"Unfortunately, African educators continue to train too many sociologists, philosophers or lawyers at the universities. When they have their master, they have to drive motorcycle taxis to make a living," claims the Togolese Didier Acouetey, president of the consulting firm AfricSearch.

According to the International Monetary Fund (IMF) Africa spends about \$ 4 billion per year to pay foreign experts who offer their skills to relieve the brain drain of the continent, which undermines the economic and social development of the affected countries.



**IBRAHIM OREDOLA  
FALOLA**

is a journalist and lives in  
Lomé, Togo.  
[ibfall2007@yahoo.co.uk](mailto:ibfall2007@yahoo.co.uk)

## IMPRINT

D+C DEVELOPMENT AND COOPERATION

Vol. 45, 2018

D+C is the identical twin of the German edition E+Z

Internet: [www.DandC.eu](http://www.DandC.eu)

D 12 107 ISSN 0721-2178

D+C Development and Cooperation is funded by Germany's Federal Ministry for Economic Cooperation and Development and commissioned by ENGAGEMENT GLOBAL. D+C does not serve as a governmental mouthpiece. Our mission is to provide a credible forum of debate, involving governments, civil society, the private sector and academia at an international level. D+C is the identical twin of E+Z Entwicklung und Zusammenarbeit, the German edition.

ENGAGEMENT GLOBAL gGmbH

Service für Entwicklungsinitiativen

Tulpenfeld 7

D-53113 Bonn

Phone: +49 (0) 2 28 2 07 17-0

Fax: +49 (0) 2 28 2 07 17-150

[www.engagement-global.de](http://www.engagement-global.de)

ADVISORY BOARD:

Thomas Loster, Prof. Dr. Katharina Michaelowa,

Prof. Dr. Dirk Messner, Petra Pinzler, Hugh Williamson

PUBLISHER:

FAZIT Communication GmbH

Executive directors: Peter Hintereder and Hannes Ludwig

ADDRESS OF THE PUBLISHER AND EDITORIAL OFFICE:

Frankenallee 71-81, D-60327 Frankfurt am Main, Germany

This is also the legally relevant address of all indicated as responsible or entitled to represent them in this imprint.

EDITORIAL TEAM:

Dr. Hans Dembowski (chief), Sabine Balk, Katja Dombrowski,

Sheila Mysorekar, Eva-Maria Verfürth, Dagmar Wolf (assistant)

Phone: +49 (0) 69 75 01-43 66

Fax: +49 (0) 69 75 01-48 55

[euz.editor@fazit-communication.de](mailto:euz.editor@fazit-communication.de)

Art direction: Sebastian Schöpsdau

Layout: Jan Walter Hofmann

Translators: Malcom Bell, Claire Davis

Disclaimer according to § 5,2 Hessian Law on the Freedom and Rights of the Press: The shareholders of the company are Frankfurter Allgemeine Zeitung GmbH (40 %) and Frankfurter Societät GmbH (60 %).

ADVERTISING AND SUBSCRIPTION SERVICE:

FAZIT Communication GmbH

c/o InTime Media Services GmbH

PO Box 1363

D-82034 Deisenhofen, Germany

Phone: +49 (0) 89 8 58 53-8 32

Fax: +49 (0) 89 8 58 53-6 28 32

[fazit-com@intime-media-services.de](mailto:fazit-com@intime-media-services.de)

PRINTING:

Westdeutsche Verlags- und Druckerei GmbH

Kurhessenstraße 46

D-64546 Mörfelden-Walldorf, Germany

Opinions expressed by authors indicated in bylines do not necessarily reflect the views of ENGAGEMENT GLOBAL, the publisher or the editor and his team. Provided that they indicate the original source, third parties have the permission to republish in complete or abridged versions the manuscripts published by D+C Development and Cooperation and E+Z Entwicklung und Zusammenarbeit. However, those who do so are requested to send the editorial office two hard copies and/or the links to the respective webpages. This general permission does not apply to illustrations, maps and other items with explicitly and separately marked copyright disclaimers.

PRICES (INCL. MAILING CHARGES):

single issue: € 2.20

annual subscription, Germany: € 14.00

annual subscription, world: € 18.00

ARGENTINA

# The budget deficit is the core problem

The exchange rate of Argentina's peso has dropped, the central bank has had to raise interest rates drastically, and the government has adopted a plan to reduce the budget deficit. The IMF is supporting implementation with a \$ 50 billion loan. Many citizens worry the country is headed for another debt crisis, but Cornelia Schmidt-Liermann, a member of the national parliament, saw ample reasons for hope in mid June.

By Cornelia Schmidt-Liermann

Argentina's government has passed its first major economic and fiscal test successfully. The kind of challenges that now lie ahead have been mastered several times in the past. The economy is recovering – slowly, but steadily. I am proud of this development.

It is true that the peso's exchange rate has fallen, but the decline of other currencies in our world region was almost as steep. The main reason for this trend was the appreciation of the dollar due to rising interest rates in the USA.

The huge budget deficit, which has been burdening Argentina for decades, makes us especially vulnerable in times of capital-market volatility. Because of bad governance in the past, we have become

used to the peso being pegged to the dollar. If the exchange rate changes even marginally, many people are afraid of crisis.

We are not afraid, however. We have ways and means to deal with exchange-rate fluctuations. At no point in recent months were we on the brink of any serious crisis. What happened was that we faced some liquidity and coordination problems, and specific measures had to be taken:

- the central bank had to raise interest rates,
- the government had to turn to the International Monetary Fund for support and
- it had to reduce the budget deficit.

An important milestone was the success of the "Lebacs", bonds issued by the central bank. In view of declining volatility, it had to issue new Lebacs. Demand was stronger than expected, which showed that the decisions taken by the government and the signals it set were sufficient to restore trust in our economy.

International responses – from Washington to Berlin to the G20 – contributed to stabilisation. The world considers us a reliable partner once more. Over the next three years, the IMF's \$ 50 billion dollar loan will help us to achieve a balanced budget (before debt servicing).

President Mauricio Macri has not backtracked from his optimistic aspirations, even though some doubt they are realistic. In a policy statement two years ago, he promised economic normalisation. This promise has not been broken, and it will not be broken. Macri warns against talking down our nation's outlook.

One reason for the recent coordination and communication problems was the central bank's independence, which must be maintained. Moreover, Argentina must reduce the budget deficit. It puts a heavy burden on all citizens, making the country dependent on foreign financing, which means it is vulnerable. That is the core problem.

Our nation needs predictability. We must be sure that uncontrolled government spending will not sink our economy once more. The big challenge is that Argentinians – led by the government – must now solve a problem that has been evident for many decades and that plunged us into crisis after the turn of the millennium.

Today, the public sector accounts for 70% of the jobs in some provinces. Therefore, we are doing our best to create real jobs, for example, by teaching people the skills that are in labour-market demand. The best social-protection policy is to create employment.

During the turbulences of recent weeks, Argentina's largest wind farm became operational. The investment costs amounted to \$ 3 billion. Moreover, we have gained access to a new market: China has opened its borders for fresh and frozen meat. This means an additional 200 million potential consumers. It also deserves to be mentioned that the demand for organic food is growing around the world and creating additional demand for Argentinian goods.

Real solutions require international cooperation and mutual support. We must ensure that the blessings of progress benefit everyone, including those who have the least. To be fair and equitable, globalisation must be inclusive.



**CORNELIA SCHMIDT-LIERMANN**

is a member of Argentina's parliament and belongs to the party of President Mauricio

Macri.

[csliermann@diputados.gov.ar](mailto:csliermann@diputados.gov.ar)

<http://corneliasl.com.ar/>

<https://www.twitter.com/CorneliaSL>



Anti-IMF rally in Buenos Aires on 1 June, 2018.



## POLITICAL VIOLENCE

# Murdered hope

For human-rights and environment activists, Brazil is one of the most dangerous countries in the world. Things are getting worse, as the recent murder of Marielle Franco, an elected local council member from Rio de Janeiro, shows.

By Carlos Albuquerque

According to the February 2018 report by Amnesty International (AI), at least 62 activists in Brazil were murdered in the course of 2017. In the past five years, at least 194 civil-society campaigners were killed. The

tered. Exact statistics do not exist, but on average less than 10% of the cases result in a court verdict. Those who kill activists typically enjoy impunity.

The murder of human-rights defenders has a special ring to it. Amnesty International argues: "A human-rights defender is not somebody who acts for himself. He represents a community; therefore his murder is meant to demobilise, scare and silence others."

Harassment of activists usually takes place in rural areas. The assassination of Marielle Franco indicates there is a new

bia, one of the neighbouring countries, has seen the murder of dozens of political leaders at the hands of corrupt security forces on the one hand and armed militias involved in illegal drugs businesses on the other hand. Considerable evidence suggests that killings in Brazil are carried out by paramilitary forces who, to some extent, rely on police officers and former police officers.

In 2004, Brazil's government launched a national protection programme (PPDDH) for activists. Among other things, places of activism have since been monitored, and activists have been granted police protection. The current administration of President Michel Temer, however, is showing little interest in this programme. Necessary funding is not available. The State of Rio de Janeiro, where Marielle Franco lived, is one of 22 states that do not have a local version of the protection programme. Brazil has 26 states and one federal district (Brasília).

The assessment of the Brazilian Committee for Human Rights Defenders is harsh: "The political will to implement the PPDDH is lacking, possibly because the programme questions the very structures on which the Brazilian society is based." After the murder of Marielle Franco, thousands of people in Brazil took to the streets. Her death made people aware of the increase of murders of politicians and social activists. Afro-Brazilian women in particular are now getting involved in politics. It seems that Franco's death has mobilised progressive and left-wing forces in the country.

The recent strike of lorry drivers, who were upset about high petrol prices, overshadowed the topic, however. Brazilian media paid less attention to Marielle Franco. It seems that her death will stay a scar on the memory of the country, just as the death of other heroes who Brazil likes to remember; especially if they died for goals they did not reach.



Remembrance of the murdered Marielle Franco at a march for the rights of homosexuals in São Paulo in March.

majority were involved in cases of land disputes or environmental protection. Along with Colombia, the Philippines and Mexico, Brazil is among the countries with the highest numbers of murdered activists, according to human-rights organisations like AI or Global Witness.

Many nations in this ranking suffer chronic violence. Brazil is one of them. In 2017, almost 62,000 homicides were regis-

tered. Exact statistics do not exist, but on average less than 10% of the cases result in a court verdict. Those who kill activists typically enjoy impunity. The murder of human-rights defenders has a special ring to it. Amnesty International argues: "A human-rights defender is not somebody who acts for himself. He represents a community; therefore his murder is meant to demobilise, scare and silence others."

Harassment of activists usually takes place in rural areas. The assassination of Marielle Franco indicates there is a new

## LINK

NGO Global Witness: Defenders of the Earth.

<https://www.globalwitness.org/en/campaigns/environmental-activists/defenders-earth/>



**CARLOS ALBUQUERQUE**  
works for the Brazilian  
programme of Deutsche  
Welle Broadcasting Service in  
Bonn, Germany.

[carlos.albuquerque@gmx.de](mailto:carlos.albuquerque@gmx.de)

BURUNDI

# Opposition bemoans democratic setback

With a strong majority, Burundi's electorate has approved a constitutional amendment that allows President Pierre Nkurunziza to stay in office for up to 16 more years. Members of the opposition – both inside the country and in exile – do not accept the result, but that does not impress those in power.

By Mireille Kanyange

The controversial referendum took place on 17 May. The government has declared that voter turnout was 96%, of whom 73% voted "Yes". Amizero y'Abarundi, the opposition coalition, argues that the referendum was neither free nor transparent nor impartial – and most certainly undemocratic. Its leader, Agathon Rwaso, who also serves as vice president of the National Assembly, speaks of a "fantasised" result and points out several procedural flaws. He has appealed to the CENI, the election commission, to prove its impartiality by declaring the referendum invalid and preparing another one.

Sahwanya Frodebu, an opposition party, similarly raises objections. Léonce Ngendakumana, its vice chairperson, has called the referendum a "setback for democracy in Burundi", insisting that the fight for democracy will continue. Moreover, Ngendakumana laments the hounding of opposition members who campaigned against the amendment.

Opposition members in exile, who are represented by the CNARED (Conseil National pour le Respect de l'Accord d'Arusha et l'instauration d'un État de Droit), do not only refuse to accept the result. In their eyes, the entire referendum campaign was unacceptable. Jean Minani, the CNARED chairperson, has called it "the funeral rites for the Arusha Agreement of 2000". That agreement ended the civil war, and its guiding idea was to share power and foster social cohesion. Instead, Minani now sees a dictatorship entrenching its power.

The amendment allows the president to run for further terms. In theory, Nkurunziza might even hold office until 2034. Pre-

viously, a head of state's tenure was limited to two terms of five years. The new limit is seven terms of five years. Nkurunziza had tried to get the constitution amended in 2014, but the National Assembly thwarted his initiative back then. Accordingly, the referendum was now held.

Unsurprisingly, the ruling party CNDD-FDD finds the referendum result most satisfying. After the provisional result was announced, Évariste Ndayishimiye, its secretary general, congratulated Burundi's people, saying the amendment meant democratic progress. At the same press conference, he stated: "Those who voted against it must understand that they will be ruled by the new constitution once it takes force." Other parties close to the government, like the Frodebu Nyakuri, for example, and some civil society organisations appreciated both the referendum and its result.

The campaign had started on 12 December 2017, when Nkurunziza committed the nation to the amendment and told people they should not oppose it. The opposition read this statement as the declaration of a red line that anyone campaigning for "No" votes would breach. The president argued that the constitutional amendment would be approved in a referendum as Burundi's people had demanded in a "national inter-Burundian dialogue". It was organised by the CNDI (Commission Nationale du Dialogue Inter-burundais), a commission that he himself had established by decree. According to Domitien Ndayizeye, a former president of Burundi, the result was more like a monologue than a dialogue.

The election commission fast submitted the provisional result to the Constitutional Court for approval. It did so in spite of referendum results from countries like Ethiopia, Canada and Britain had not been transmitted yet. Burundians with the right to vote reside in those countries. The election commission stated that their votes are not relevant for the final result. On 31 May, the Constitutional Court dismissed an opposition petition to invalidate the result and approved it as constitutional.



A Burundian citizen casts her vote.



**MIREILLE KANYANGE**

is a journalist and works for Radio Isanganiro in Burundi.

[mika.kanyange@gmail.com](mailto:mika.kanyange@gmail.com)



## MOTHERHOOD

# Healthy change

A total fertility rate (TFR) of 2.1 means that women have 2.1 children on average in their lifetime. At this TFR and without migration, a country's population is neither growing nor shrinking. Bangladesh has reached that mark, and the trend is good in other South Asian countries as well. In 1966, the TFR for this world region was 5, according to the World Bank, but in 2016 it was 2.44.

By Najma Rizvi

Bangladesh is the regional front runner. The World Bank reports that the TFR was 6.6 in what was then East Pakistan in 1960. The rate has since been reduced by more than two thirds. The achievement is important because sustainable development requires a stable population.

In Bangladesh, the first family-planning programmes were launched in the 1960s. They did not deliver impressive results. An important reason was that they focused entirely on contraception methods, but failed to tackle issues of maternal and child health as well. What really encourages parents to opt for smaller families is lower infant and child mortality. If they think some of their children will die, they want to have several to make sure that some survive. If they expect their children to live, however, they want to invest in their education to maximise their chances in life. On average, healthier families are therefore smaller families.

After independence from Pakistan, Bangladesh ran very successful vaccination programmes. Moreover, basic health services began to improve, mostly due to non-governmental efforts. However, the government also recognised the need to focus on maternal and child health. More children than before lived beyond their fifth birthday.

Experience shows that close cooperation of state institutions and civil society is useful. In 1978, the Bangladeshi government started to promote family-planning services through family-welfare assistants, most of whom were professionally trained paramedics, nurses and birth attendants. Their job was to reach out to village women at the

grassroots level. The point was to advise mothers about the benefits of having a small family, but they offered comprehensive advice on other things and helped families to get access to competent health care.

Bangladesh is a least-developed country. We do not have enough medical doctors. As the experience of Gonoshasthaya Kendra (GK), a non-governmental health-care provider, and others shows, however, paramedics can provide most essential health services.



Paramedic providing prenatal care.

For complicated cases, of course, they need a referral system with professional doctors.

Especially in rural areas, traditional midwives have always been important – and they still are. They enjoy the trust of their communities. It makes sense to update their knowledge and involve them in family-planning promotion.

Education gives women more decision-making power about how many children to bear – and girls who go to school tend to get married later. Moreover, gender roles are changing – not least thanks to micro-finance organisations. They have been giving women access to credit for decades.

It is noteworthy that religion was not a major obstacle to promoting birth control in Bangladesh. Our recent history probably

played a role. In the liberation war of 1971, many women were raped, and some became pregnant. They did not want the babies of the oppressors, so they needed abortions. Even though our country is predominantly Muslim and has a rather conservative culture, people sympathised with the pregnant rape victims. The humanitarian catastrophe actually provided an opportunity to take a progressive approach to family planning. Religious clerics did not pose a threat to family-planning efforts as they did in Pakistan.

Bangladesh is still a poor country, but we have made some progress. The vast majority of people enjoy food security today, but the poor suffer malnutrition. Masses still lack appropriate shelter. Due to rural poverty, cities are growing fast without

proper infrastructure. Impacts of climate change are being felt. Future challenges are daunting, but not insolvable.

It is a great achievement that Bangladesh has lowered the TFR to 2.1. However, average data always hide some issues. The fertility rates are still higher for poor families in rural areas. Health-care services must improve further – and so must social and physical infrastructure in general.



**NAJMA RIZVI**  
is a professor emerita of anthropology of Gonobishwabidyalay, the university started by GK, the health

NGO.

[nrizvi08@gmail.com](mailto:nrizvi08@gmail.com)

# Letters to the editor

## NOT EVEN 2/3 THERE YET

**D+C/E+Z e-Paper 2018/05, p. 14: Hans Dembowski: Overwhelmingly positive progress**

The western development paradigm is rightly under attack. It has not delivered what it should have after being hegemonic for over four or more decades. The issue is unfairly categorised as a leftist/right-wing issue which it is not. The vital statistics indicators the editorial refers to should have actually ceased being topics of concern a long time ago. As the western development paradigm has not delivered, it needs to be replaced, not improved. Have “reason, science and humanism” (humanism?) led, as your editorial states, to “dramatic progress”? We are not even 2/3 there yet. And no, “intelligent policies based on empirical evidence” are not what is going to change the inequitable

balance of power the world over. Empirical data does not speak for itself, it must always be analysed from a political perspective. It is impossible to judge in an “unideological” way whether progress is fast or slow. Empowerment of the poor is needed, not more numbers crunching.

**Claudio Schuftan, Ho Chi Minh City**

## WORSE THAN FACTUAL INACCURACIES

**D+C/E+Z e-Paper 2018/05, Focus: Dangerous disinformation**

I doubt that your approach to the topic really hits the target. I’ll happily admit that I do not specialise in media matters, but I do follow the debate in Germany, the EU and the USA.

As I see it, factual inaccuracies are not the problem. I keep listening to the news

on Germany’s public radio, and it always includes at least one inaccuracy. That is probably inevitable, because perfect quality control would be unaffordable. Sometimes, moreover, news agencies correct mistakes they made, but other media have already processed that news and are unable to iron things out again.

What is really dangerous in my view is how narratives are set. (Obviously you are applying such a narrative yourself.) My impression is that German media refuse to reveal and even less debate how narratives are set. Manipulation is done via narratives. This is quite dangerous, given that the media shape public opinion.

Applying this analysis to your focus section, I find my view confirmed.

**Hans-Jochen Luhmann, Wuppertal**



Narratives matter: Ugandan newspaper vendors.



Please visit our  
website  
[www.DandC.eu](http://www.DandC.eu)



HUMAN PROGRESS

# The way forward

**Reason, science and humanism have delivered spectacular results, argues Harvard scholar Steven Pinker. His new book's programmatic title is "Enlightenment now".**

**By Hans Dembowski**

The case Pinker makes is overwhelming. Here is an abridged version of beginning of chapter 20. Its title is "the future of progress", and it starts with a summary of what has been achieved in the course of the past 250 years:

- "Since the Enlightenment unfolded in the late 18<sup>th</sup> century, life expectancy across the world has risen from 30 to 71, and in the more fortunate countries to 81. When the Enlightenment began, one third of the children born in the richest parts of the world died before their fifth birthday; today that fate befalls six percent of the children in the poorest parts. (...)"
- "The world is about 100 times wealthier today than it was two centuries ago, and the prosperity is becoming more evenly distributed across the world's countries and people. The proportion of humanity living in extreme poverty has fallen from almost 90% to less than 10%, and within the lifetime of most of the readers of this book it could approach zero. Catastrophic famine, never far away in most human history, has vanished from most of the world, and undernourishment and stunting are in steady decline (...)"
- "War between countries is obsolescent, and war within countries is absent from five-sixths of the world's surface. The proportion of people killed annually in wars is less than a quarter of what it was in the 1980s, one seventh of what it was in the early 70s, an 18<sup>th</sup> of what it was in the early 1950s and half a percent of what it was during World War II. (...)"
- "People are getting not just healthier, richer and safer, but freer. Two centuries ago, a handful of countries, embracing one percent of the world's people, were democratic; today two-thirds of the world's countries, embracing two-thirds of its people,

are. Not long ago, half of the world's countries had laws that discriminated against racial minorities; today more countries have policies that favour their minorities than policies that discriminate against them. At the turn of the 20<sup>th</sup> century, women could



**Life expectancies have risen and children's health has improved: Ghanaian grandmother.**

vote in just one country; today they can vote in every country where men can vote save one. Laws that criminalise homosexuality continue to be stricken down. (...)"

- "As people are getting healthier, richer, safer and freer, they are also becoming more literate, knowledgeable and smarter. Early in the 19<sup>th</sup> century 12% of the world could read and write; today 83% can. Literacy and the education it enables will soon be universal, for girls as well as boys. (...)"
- "As societies have become healthier, wealthier, freer, happier and better educated, they have set their sights on the most pressing global challenges. They have emit-

ted fewer pollutants, cleared fewer forests, spilled less oil, set aside more preserves, extinguished fewer species, saved the ozone layer and peaked in their consumption of oil, farmland, timber, paper, cars, coal and perhaps even carbon."

This is only a part of Pinker's summary of the blessings of progress. The book's documentation of facts and trends is solid. The data clearly show that humanity has advanced incredibly. If humankind sticks to the well-tested formula of reason, science and humanism, Pinker sees scope for further progress.

The book's final chapters discuss what that means. Pinker admits that human beings are not by nature reasonable. Indeed, irrational behaviour is actually quite common. The point, according to the psychology professor, is that we are endowed with reason, and that we benefit from using this capacity.

Science, of course, is based on reason, and Pinker praises its merits. Research actually keeps delivering results in terms of new technology. At the same time, it expands the horizons of our knowledge. The Harvard scholar refutes post-modern, romanticist and other intellectual notions that belittle science. He insists that science is not just another ideology. It delivers key to understanding and changing the world.

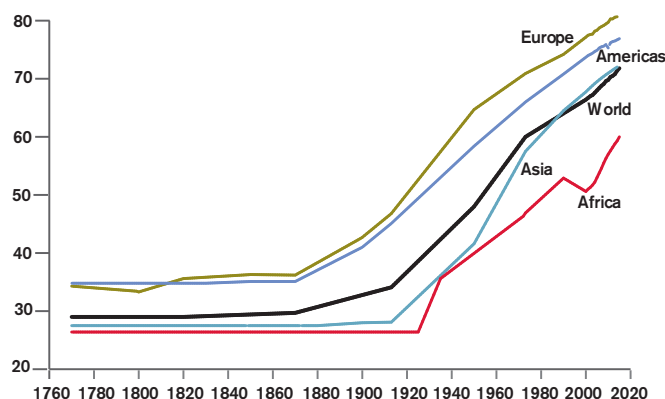
## IMPARTIAL HUMANISM

That said, Pinker argues that the powers that science unleashes should be harnessed in a spirit of humanism, which bases morality on a secular foundation. The principle idea is the acceptance that all human beings are of equal value and should have equal rights. Pinker explains: "If I object to being raped, maimed, starved or killed, I cannot very well rape, maim, starve or kill others." This kind of impartiality is the foundation of Pinker's moral reasoning.

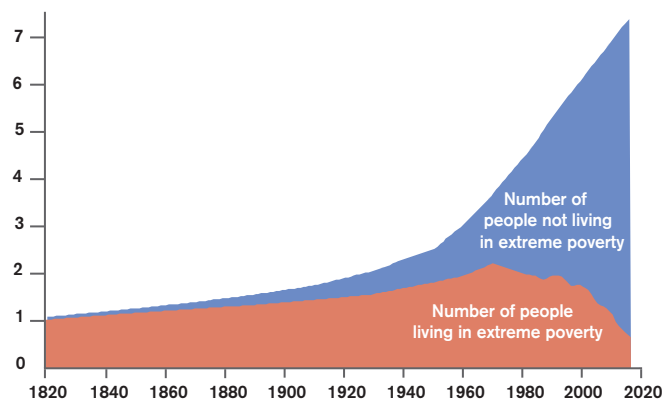
This thinking is secular because it does not refer to any higher being. Its logic is imminent in human existence. Pinker writes that people do not necessarily need religion, but his stance is not anti-religious. Impartiality is actually reflected in the biblical rule of treating others as one would want them to treat oneself. Other world religions have similar doctrines.

The point of enlightened humanism, however, is that collectively binding deci-





Average life expectancy



World population (in billions)

sions should not be based on any kind of religious dogma. Nor should they be based on special interests or personal will. According to Pinker, policies should be based on the careful assessment of all relevant facts and well-considered hypotheses about causes and impacts. All interests affected should be taken into account.

So is everything fine given that humanity has made such spectacular progress? No, Pinker does see two huge risks. One is climate change and the other is nuclear war. If nothing is done to control these risks, Pinker considers catastrophes not only to be possible, but even likely. In his eyes, however, the situation is not desperate because multilateral action has been taken on both fronts.

The big question, of course, is whether those multilateral efforts will be effective. Action on climate change must be stepped up fast, whereas non-proliferation and disarmament agreements seem to be eroding. As the Harvard professor acknowledges, things can go terribly wrong.

Unenlightened and authoritarian populism is a serious problem in this context, according to Pinker. Unsurprisingly, US President Donald Trump serves him as the most prominent example of a leader who shies away from fact-based discourse, but pretends to know more than experts. As political scientist Jan-Werner Müller argues (see D+C/E+Z e-paper 2017/02, p. 39), populist leaders:

- claim to personally represent their nation,
- find any kind of dissenter opposition illegitimate and

- try to change the constitutional order in a way to entrench their power permanently.

### POPULISM THRIVES ON DIVISIVENESS, NOT PROBLEM SOLVING

Pinker writes that the way western nations practice democracy is part of the problem. Elections resemble sports events, with citizens rooting for one team and resenting the other. Campaign slogans and polemical agitation prevail where nuanced arguments and diligent number crunching are needed. Media pundits would do a better job if they carefully weighed arguments instead of reinforcing their audience's entrenched world view. Nonetheless, Pinker expresses the belief that the forces of enlightened liberalism will prevail – not least because populists' rejection of experts means they are likely to run into problems they refuse to see.

Pinker's basic stance on reason, science, humanism and progress makes sense and deserves endorsement. Details of his long essay, however, certainly deserve scrutiny. For example, Pinker tells us not to worry about rising inequality as long as living standards in general keep rising. He has a point, but he only briefly discusses the worrisome trend of the super-rich increasingly being able to usurp democratic decision-making (see our briefing on philanthropy).

Another example is that Pinker considers nuclear power to be a rational choice in view of climate change, arguing that there have only been few accidents in the past and they all proved to be far less deadly than environmentalists had feared. He does

not, however, discuss the unresolved issue of radioactive waste. It certainly looks irresponsible to generate tons of toxic waste which need to be stored safely for thousands of years. The proliferation of nuclear power plants, moreover, would make the proliferation of nuclear weapons more likely.

The case in favour of science is not as clear as Pinker would have it. Two fundamental principles of science are transparency and disinterestedness. All too often, regulating agencies base decisions on corporate research that does not meet these criteria.

All these points deserve reasoned and fact-based debate. The views of all parties concerned must be considered. And that can be done according to the principles Pinker spells out in his book. His core thesis is that the promises of enlightenment have not proven to be empty. Modernisation, industrial technologies and, indeed, globalisation have delivered better results than is often assumed. More than 200 years after enlightenment began, it is safe to say that reasoned democracy is more promising than authoritarian populism or any other kind of dogmatism for regulating worldly affairs.

### REFERENCE

Pinker, S., 2018: *Enlightenment now. The case for reason, science, humanism and progress.* London: Allen Lane.



**HANS DEMBOWSKI**  
is editor in chief of  
**D+C/E+Z.**  
euz.editor@  
fazit-communication.de

EDUCATION

# Driving wealth and development

The importance of education in driving sustainable development is hardly disputed. Considerable progress has been made in recent decades, thanks to initiatives like the UNESCO World Declaration on Education for All and the international promotion of universal primary education. However, simply expanding basic education and school enrolment is not enough. In many developing countries, quality deficits persist, so individual and societal potentials often remain untapped.

By Janina Meister

Education and its role in fostering growth is a topic that has preoccupied theorists of both educational science and economics as well as policymakers for decades. “Human capital” – a term often used by economists – refers to the economic and social value of formal education and skills acquisition. Education has recently been regaining attention in economic growth research, the academic discipline that seeks to explain growth and development patterns in different countries.

At the macroeconomic level, education provides a foundation for economic growth and societal development by boosting productivity and fostering the ability to critically assess social affairs. From a microeconomic perspective, a solid education builds self-confidence, facilitates participation in society and drives personal development. Moreover, it opens up job prospects and allows people to earn money.

In general, the state is expected to provide access to basic education and training opportunities. At the global level, however, education opportunities and access to them are most unevenly distributed. In Germany, young people go to school for 13 years on average. In sub-Saharan Africa, the respective number is only 5.4 years.

For such reasons, education is a core issue of international development coop-

eration. Moreover, the right to education is part of the Universal Declaration on Human Rights (Article 26). Though the Declaration is not legally binding, it constitutes a commitment which 193 states of the world made voluntarily.

The international community reiterated its commitment to improving education in the Millennium Development Goals (MDGs) that were adopted in 2000. One of the goals (MDG2) was to achieve universal primary education and guarantee that all children can complete primary school by the year 2015. Considerable progress was indeed made towards raising the number of children who go to primary schools. According to World Bank, the percentage of primary school age children enrolled in primary or secondary school in sub-Saharan Africa increased by approximately 25% from 1996 (54%) to 2015 (78%). Estimates suggest, however, that more than 125 million children worldwide left primary school without having acquired basic literacy and numeracy.

Another MDG was to promote gender equality at all educational levels (MDG 3.A). Nonetheless, gender disparities persist in educational attainment across all levels in sub-Saharan Africa. Girls’ education particularly lacks behind in the fields of math and science. Only 21% of girls in Sub-Saharan Africa graduate from secondary schools. The comparative share for boys is 28%. The gap highlights that focusing only on enrolment is plainly not enough.

## EDUCATION AND EDUCATION POLICY IN BENIN

For good reason, the international education debate now emphasises issues of quality and is geared to closing gaps across all levels of schooling. The Sustainable Development Goals (SDGs), which were adopted 2015 as the follow-up agenda to the MDGs, reflect this shift. The new educational goals are to



ensure inclusive and equitable quality education for all and to promote lifelong learning for everyone (SDG 4). Moreover, the debate on how to improve the quality of learning and education in developing countries features prominently in the World Bank’s most recent World Development Report.

This year, Benin will host the annual conference of the Poverty Reduction, Equity and Growth Network (PEGNet). The topic will be how the quality of education and learning outcomes in developing countries can be improved. As Benin has experienced an unprecedented rise in school enrolment rates over the past two decades, this topic is highly pertinent.

## SCHOOL SUBSIDIES FOR GIRLS

Benin’s educational system has six years of compulsory primary school, four years of secondary school and three years of upper secondary school. Depending on their grades, graduates can then go to university or a vocational school. While school attendance in Germany is compulsory and free of charge up to the age of 18, in Benin only the first six years are mandatory. This low-income country cannot afford to abolish tuition fees for all levels of education.

Despite the economic challenges, Benin’s government has adopted several policies and reforms to improve the education sector. For example, in 2010, the Ministry of Secondary Education started subsidising tuition fees for female students attending secondary school in rural areas. The subsidies are designed to boost women’s educational opportunities.

Benin’s government, moreover, has partnered with researchers to assess the effectiveness of some of its policies. An ongoing research project of the Institute for Empirical Research in Political Economy





Primary school in Hevie, Benin.

(IERPE) at the African School of Economics in Benin is investigating the impact of supplementary mathematics lessons on girls' performance. The project compares 90 randomly selected schools in three different scenarios: additional mathematics courses are either provided to boys and girls or only to girls, and a control group gets no extra courses. The results of this study will be presented at the PEGNet conference in October.

Another ongoing research project analyses technical vocational education and training (TVET) in Benin and its impacts on youth employment. Researchers of Switzerland's ETH Zurich and the University of Abomey-Calavi in Benin are evaluating the impact of a formal TVET programme called "Certificat de Qualification Professionnelle (CQP)". It upgrades the informal apprenticeship that is commonplace in most West-Afri-

can countries, by linking it to formal school lessons according to the German model ("dual system").

To evaluate the impact of the CQP, the six-year project employs a regression discontinuity framework and intends to run a randomised controlled trial (RCT). In addition, it is developing an innovative, mobile-phone based method for monitoring young people's labour-market situation.

### ANNUAL PEGNET CONFERENCE

Projects like these show that there is a lot of interdisciplinary and international research underway that addresses the question how to improve education in developing countries. The long-term improvement of educational prospects will depend on shifting the focus from quantity to quality and involving

local experts in the debate – as PEGNet does at its annual conferences.



**JANINA MEISTER**  
is a graduate student in  
Economics and Public Policy  
at Johannes Gutenberg  
University Mainz and an intern

at the Poverty Reduction, Equity and Development department of the Kiel Institute for the World Economy.

This year's annual conference of the Poverty Reduction, Equity and Growth Network (PEGNet) will take place in Cotonou, Benin on 11 and 12 October, 2018. It will be organised in cooperation with the African School of Economics and dedicated to "Improving the quality of education and learning outcomes in developing countries".

[janina.meister92@gmail.com](mailto:janina.meister92@gmail.com)

EMERGENCY RELIEF

# “One of the greatest tragedies of our time”

**As the conflict in South Sudan enters its fifth year, millions of refugees and internally displaced persons (IDPs) lack basic necessities such as shelter, food, medicine and basic education. Aid agencies reckon they need \$1.4 billion until the end of this year.**

By Okello Ciro

The UN Refugee Agency (UNHCR), the World Food Programme (WFP) and 57 other humanitarian agencies are involved in providing aid for refugees and IDPs. They want to mobilise some \$1.4 billion by the end of this year. Fighting and hunger are driving ever-greater numbers of desperate people to flee South Sudan. Accordingly, the UNHCR and its partners have been appealing to donors for quite some time.

According to the 2017 UNHCR report on South Sudan, 2,800 men, women and children are fleeing each day. They want to escape worsening violence and looming famine. Many arrive in neighbouring countries pinched by hunger, with nothing but the clothes on their back and traumatised by horrific experiences. Filippo Grandi, the UN high commissioner for refugees, speaks of “bad stories” and “a very long list of evils” including extortion, forced recruitment, rape and murder.

In May last year, Grandi told a donor conference in Geneva: “Besides being the largest refugee crisis in Africa, South Sudan is one of the greatest tragedies of our time.” He was launching an appeal for emergency aid. South Sudan is also the world’s fastest escalating refugee crisis, according to the UNHCR report.

About 1 million children are among those seeking safety in Uganda, Sudan, Ethiopia, Kenya, the Democratic Republic of the Congo (DRC) and the Central African Republic (CAR). Some 2 million IDPs are living in South Sudan, and over 2 million people have fled to neighbouring countries. Uganda alone has accepted about 1 million

of them. The UNHCR is coordinating the overall response with governments, humanitarian agencies as well as with refugees and host communities.

Additional resources are required. “If we get the funding, we can stave off the danger of famine spreading,” says David Beasley, the executive director of the WFP. His agency alone reckoned it needed \$300 million to help fight hunger and food insecurity in the country. That is what it stated in a report in July 2017.

To curb food insecurity, in March 2018 the government of South Sudan launched an ambitious programme in Yambio, one of the country’s traditional bread baskets. Onyoti Adigo Nyikwec, the minister of agriculture and food security, is cooperating with the UN Food and Agriculture Organization (FAO) and the WFP. He has emphasised the importance of the planting season for improving food security in South Sudan. The idea is to fight hunger by encouraging the local people to cultivate enough food.

The lack of food has several reasons. The most important one is the violent con-



flict. Because of it, farmers cannot cultivate their fields and take care of their livestock. The drought that has been haunting east Africa is relevant too, but to a lesser extent than in neighbouring countries. Experts estimate that up to 7.1 million people will suffer acute food insecurity at the peak of the hunger season from May to July this year. Care International South Sudan warns that half of the population is affected. According to this agency, 1 million children under the age of five are severely malnourished.

The FAO emphasises the need to continue enabling farmers to produce their own food. “It is critical that we continue helping vulnerable farmers, fisher folk and herders to build stronger, more resilient livelihoods and become more self-sufficient in food production,” says Pierre Vauthier, an FAO staff member. “Agricultural livelihoods play a critical role in ensuring national food security, economic growth and contributing to future peace and stability.”



Aerial view of Bentiou settlements.



The scenario is depressing however. “The food security situation in South Sudan continues to deteriorate,” says Simon Cammelbeek of the WFP.

“It is critical for everyone from the farmers to the private sector to take advantage of the upcoming main planting season if we are to meet the food needs of the country and ultimately defeat hunger.” The situation in South Sudan and neighbouring countries has long escalated into a full-blown humanitarian emergency. Cammelbeek expects things to get even worse “until a political solution is found”.

Nonetheless, attempts are being made to improve rural livelihoods. Greater Equatoria is one of South Sudan’s regions. It once accounted for 17% of the country’s cereal production, but it has been affected by years of conflict. Masses of people were displaced, and agricultural production has been affected considerably. In 2017, an FAO emergency programme supported 860,000 vulnerable households with vital agricultural inputs to ensure that fields could be cultivated.

The WFP and partners have taken a different approach in Western Equatoria, a neighbouring region. Its cash-for-assets programme supported 3,000 households, so they could improve infrastructure such

as wells and roads. Moreover, it is helping school-meal programmes source food from local farmers.

Such measures are relevant. However, they cannot solve the real problem. As long as the war drags on, food security will remain a mirage.

## CAMP LIFE

Masses of people now live in refugee and IDP camps. The majority of them are women and children. Typically, they arrive there weak and malnourished. When the rainy season comes, flooding and diseases compound their suffering.

“I need blankets. It is cold at night and I don’t want my children to get sick,” worries Rebecca Barnaba, 23 years old, who lives in Doro camp in Bentiu. She says that the tent she was given does not withstand heavy rain, so the family gets wet. Patrick Riek is living in an IDP camp in Juba, the capital city. He says that the residents are not getting sufficient food rations.

Kon Gabriel, a resident of another camp in Juba, complains about health problems: “The health centre here is not well-equipped, medicines are lacking and we are forced to buy from pharmacists outside the

camp.” In his eyes, the international community should do more to help the suffering people – and to ensure that the conflict ends.

Arnauld Akodjenou of the UNHCR says that it is important to restore hope: “However, without further funding and support, we will struggle to provide even the most basic assistance.” According to him, the scale of displacement is “unbelievable”.

The UN in South Sudan (UNMISS) is supposed to protect civilians as well as monitor and investigate the violation of human rights. Its official mandate is to create the conditions for the delivery of humanitarian assistance and to support the implementation of the peace agreement. The problem is that the agreement is not being implemented. The fighting keeps escalating. South Sudan’s people keep dreaming of education, proper health care and reliable food supply, but the civil war has reduced the status of millions to depending on charity.



**OKELLO CIROL**  
is a freelance journalist and senior reporter for the Dawn Newspaper. He lives in Juba, South Sudan.


[journalistokello@gmail.com](mailto:journalistokello@gmail.com)



# Follow us on Twitter!

To stay in touch with what is happening on our website, follow us on twitter.



A woman with long dark hair and glasses is crouching at night, lighting a candle. She is wearing a white t-shirt and dark pants. In the foreground, a red-framed sign reads "Remember Haiyan". Several other candles are lit on the ground. In the background, other people are visible, some wearing white shirts with "JP" on them. The scene is dimly lit, with the primary light source being the candles.

Filipinos commemorating the victims of Typhoon Haiyan.

## Climate change

Global warming affects people all over the world. Extreme weather is becoming worse, with floods, storms and droughts causing dramatic suffering. Far too many people die, and many more lose their livelihoods. The impacts of climate change will be felt increasingly by ever more people – unless the international community rises to the challenge with determination.





Nigerians displaced by flooding in 2012.

## Building African resilience

**Africans are increasingly exposed to climate risks, because draughts, floods and storms get ever more forceful. The African Risk Capacity takes a promising innovative approach to managing these risks. The idea is to use insurance to prevent natural disasters from becoming humanitarian disasters.**

**By Chinedu Moghalu**

According to Nigeria's National Emergency Management Agency, the financial cost of the 2012 flooding amounted to 2.6 trillion naira (the equivalent of more than \$ 5.8 billion) across the country. Housing and agriculture were the worst affected sectors. The crisis made people and communities suffer, and the huge financial loss highlights the scale of the natural disaster. The burden is so great that the affected communities will feel it for many years.

They were unable to repair the damage fast because they simply did not have the money they needed.

In Africa, droughts, floods and cyclones have been wreaking havoc in communities across the continent. For example, a severe drought affected the whole of east Africa in 2011 and 2012. As a result, over 9.5 million people experienced harsh food shortages. The event triggered a refugee crisis. In February last year, storm Dino destroyed 20,000 homes in Mozambique.

Climate change means that extreme weather is occurring more frequently, so African nations are exposed to ever growing risks. The grim reality is that disasters are recurrent, so some people are likely to be traumatised again and again.

No doubt, Africa must prepare for climate change. The challenge is to build the resilience of vulnerable communities and

deliver timely assistance when they need support. These issues are not trivial. Many people dismiss the capability of Africa to rise to this and other daunting challenges. They say leaders lack the political will and the competence for the kind of effective policymaking that might unlock the required resources.

That perception is overblown. Some progress is being made. In 2012, for example, policymakers came together under the aegis of the African Union (AU), and founded the Africa Risk Capacity (ARC). It is a specialised agency for financing climate resilience and crisis response. It consists of two arms, the AU Specialised Agency and the ARC Insurance Company. The ARC Agency focuses on building capacity within African member states for risk management and provides the necessary tools to support such work. This includes the provision of an early warning tool called Africa RiskView, which is linked to predefined contingency plans. The second arm of ARC, the Insurance Company, issues contracts to governments which serve to finance predefined contingency plans in the event of a disaster.

The ARC Insurance Company started out with a 20 year returnable no-interest loan of \$ 200 million in risk capital from the governments of Germany and the United Kingdom. The ARC objective is to provide African countries with funds immediately when disasters strike. This kind of first-response assistance should reduce Africa's dependency on humanitarian aid. It is an important component of disaster preparedness.

Africa RiskView does not only provide early warning. Its risk-modelling platform can be used to define parameters for disbursing insurance benefits. When satellite data indicates that a drought has occurred, the ARC thus pays at short notice. The process is automated, so the disaster response is timely.

The ARC has been operational for some time. No less than 33 countries have signed up to it. Nigeria is one. Not all, however, have joined the insurance scheme as paying clients.

The initial risk pool consisted of Kenya, Mauretania, Niger and Senegal. The scheme started in the rainfall seasons of 2014/15. The client countries paid insurance premiums worth \$ 19 million, and the first set of insurance payouts was made in January 2015, totalling \$ 26 million. The beneficiaries were Mauritania, Niger and Senegal because these countries were affected by drought.

However, the ARC can and will do more. The target is to insure 30 countries against drought, flood and cyclone disasters by 2020. This translates to up to \$ 1.5 billion in coverage for some 150 million people. For this to happen, African governments must actively participate in the pool and pay premiums. The role of donors is also critical, not only in providing capital but in supporting premium financing for the fiscally most constrained countries.

It is important to understand that the ARC is actually a cost-reducing instrument. By making money available immediately, it reduces the costs of disasters. If a crisis is not responded to fast, the damages and costs keep growing. According to estimates, every dollar spent by the insurance right away saves nearly \$ 4.5 that would otherwise have to be spent later.

The ARC is an innovative and promising institution. The question arises whether it will perform well in the long term. Africa

has a reputation of being a graveyard of good initiatives – and the reasons are lack of awareness, cynicism and governments' inability to put their money where their mouth is. If they do not pay the premiums, their nations will not enjoy insurance coverage.

## THE CONTINENT LEAST PROTECTED BY INSURANCES

Part of the challenge is that Africans are generally somewhat insurance-averse. This form of risk management actually requires a certain level of prosperity. It means to spend money on something one hopes one will not need. The point of an insurance policy is to be able to cope with an unlikely disaster that would be utterly devastating should it occur. Because more customers buy insurance than ultimately need it, the insurance company can cover the damages and make a profit nonetheless. Basically, an insurance scheme spreads the costs of damages over many households. Individual risks are thus managed in a collective way.

In African countries, only the upper and middle classes are prosperous enough to even consider investing in insurances they hope they will not need. This is the world's least insurance-protected region. People's prevailing attitude, therefore, does not support the ARC.

This challenge can be surmounted. Policymakers are able to understand the cost-benefit analysis. Such understanding could – and should – be reinforced by peer reviews in the context of NEPAD (New Partnership for Africa's Development) with regard to protecting citizens from natural disasters. The process would also leverage local-level advocacy. It is important to raise awareness. Civil-society organisations should endorse the ARC because it serves to protect vulnerable communities. The point is to ensure that a natural disaster does not become a humanitarian one.

It must be acknowledged, nonetheless, that some governments will find it hard to pay the insurance premiums. Commodity prices are currently depressed, so the budgets of many commodity-exporting countries are strained. Governments are struggling to meet existing commitments. However, they must consider the sheer impact of natural disasters. Including insurance as part of their risk management strategy makes sense because it allows

countries to cope with otherwise devastating events that would strain the public purse much more than comparatively small premiums do. The financial and humanitarian costs of natural disasters far outweigh the insurance expenditure. The smart priority is to set aside small sums to pay premiums in order to be able to deliver quick and effective assistance to people when needed.

African philanthropists should consider the ARC too. Donations to the ARC are welcome and can have huge impacts. In response to Nigeria's 2012 flood crisis, the country's billionaires were mobilised to contribute to meeting the humanitarian needs. Such an ad-hoc approach cannot deliver assistance fast enough however.

Strong private-sector businesses use insurance schemes to manage their risks. Accordingly, private-sector leaders should endorse the ARC mechanism as well. In the long term, an obligatory, legally coded system is stronger than mere charity.

There is ample scope for private-public partnerships in the ARC context. Every member government should set up a central office to coordinate resource mobilisation for ARC premiums. They should involve the private sector in this effort. This way, Africa can leverage the recent successes in private-sector development and reduce the dependence on foreign donors.

The ARC has a governance structure that represents its stakeholders. Signatories to the initiative make up the Conference of Parties, the agency's main governance body. Ngozi Okonjo-Iweala chairs the governing board. She is Nigeria's former finance minister and former top manager of the World Bank. Her international reputation is good.

The ARC is set to prove that a little external assistance combined with the resources of African governments and increased private-sector prosperity can deliver disaster relief and support recovery. Africa can become more resilient – and it must do so, given the outlook of growing climate risks.



**CHINEDU MOGHALU**  
was recently appointed head  
of communication and  
advocacy for the African Risk  
Capacity (ARC).

*moghaluigwe@gmail.com*



# “We consider ourselves a fuel utility”

Inyenyeri is a private-sector company that wants to earn money by tackling two major problems: deforestation and toxic indoor smoke. It was started in Rwanda – but has a pan-African vision to transform energy consumption. Eric Reynolds, the founder and CEO told Hans Dembowski about his plans.

Eric Reynolds interviewed by  
Hans Dembowski

## Why is clean cooking an issue?

Our main objective is to solve the health problem caused by toxic smoke. In Africa many people die from cooking-fire related indoor emissions. Moreover, charcoal fires exacerbate climate change. Traditional cooking fires across Africa cause more than a gigaton of carbon emissions per year.

## Inyenyeri promotes burning pellets instead of charcoal. Why is that better?

Making charcoal the way it is done in Africa is literally a stone-age technology. We are leapfrogging to an innovative technology. Using pellets instead of charcoal reduces the amount of biomass needed by 90 %. This can make an enormous impact on climate change emissions, and will also help to reverse deforestation.

## And you totally reduce the smoke?

Our fuel and stove system reduces household air pollution by 98%. The pellets are gasified, so you are essentially burning gas. The cookers are as clean as natural-gas cookers are. There is no health risk. The stoves are actually quite sophisticated, but easy to handle and safe.

## But you are not selling the hardware?

We are a fuel company – we buy the world’s best biomass-gasification stoves, then provide them free to our customers to use, as long as they continue to buy fuel from us. Just like in your home, the gas company provides the pipes that deliver the fuel, and you pay for what you use. Our approach is

the same, which is how we can serve even the poorest households.

## So you give your costumers the stoves as a present?

The stoves are leased for free, but we still own them. The only obligation the household has is to buy our fuel pellets to cook. We fix and repair the stoves as needed. According to a family’s size and income level, we provide enough stoves for the family to cook 100 % with the new system, and we monitor their pellet consumption. We know how many grammes per person per days is required, so we can tell from our statistics



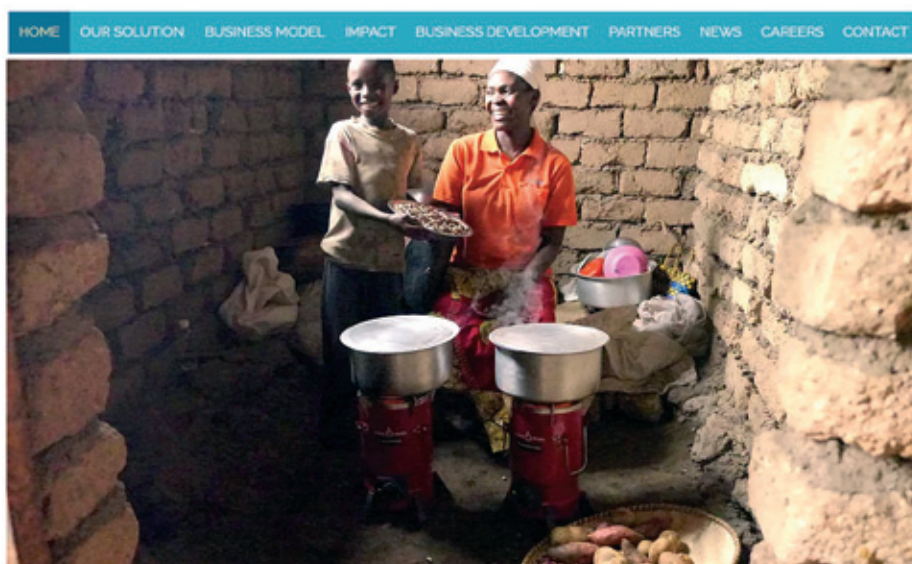
to what degree the households are using the stoves. If people fall back and use wood or charcoal every now and then, they lose most of the health benefit. So we go and check what is going on: Have additional people moved into the household? Is someone else cooking? If the household buys less pellets than it should, we ask them what has gone wrong. Did we not train you sufficiently? Do we need to repair something? If the problem



**INYENYERI**  
A Rwandan Social Benefit Company

Toll free line:  
**5656**

Donate



**OUR  
MISSION**

**To eliminate death and disease  
caused by Household Air  
Pollution in Rwanda**

isn't sorted out, we reclaim the cooker and the contract is repealed.

**You must recover the cooker costs by charging more for the pellets. Is that viable?**

Yes, absolutely. Our fuel is so efficient, we can charge much less than the price of charcoal, and still cover our costs and make a profit. We believe that it takes us two to two and a half years per household for the pellet price to reimburse us the investment costs for the cooker, the pellet factories and our distribution system. Our experience is that we need five dollars per stove per year of maintenance and repairs. That is enough to make sure that the stove can be used for five to six years. And the current stove is not as robust as we would like it to be. We are pressing the manufacturers to provide us with stoves that are more robust so that they can be used for up to 20 years.

**You could sell pellets for a much lower price if you did not invest in the cookers. What if someone else starts to sell cheaper pellets?**

Well, they could only offer cheaper pellets if they built a big pellet factory. That would mean \$10 million to \$20 million investment, which looks prohibitive. And if our customers would buy their cheaper pellets instead of ours, they wouldn't fulfil their part of the contract, and we would take the stoves back.

So anyone who wants to compete with us needs stoves of comparable quality on top of cheaper pellets. That is really hard to do. We think that the first mover advantage in sub-Saharan countries is going to be quiet profound. First, we want to prove that the business model works in Rwanda. Then it'll be easier to get additional investors, to expand in different countries. The objective is pan Africa. We are aware that someone might try to copy our model in another country and be the first mover there. If that happens, we hope that it will be a socially conscientious investor who ensure that poor people benefit too. It would be a pity if the system was only adopted to serve middle-class customers.

**When do you think you will break even?**

I think that will happen once we reach the range of 75,000 to 100,000 households, probably in 2022. We need economies of scale. Apart from selling pellets, we have another revenue stream. Our CO<sub>2</sub> reductions are measured, audited and certified according to UN rules. The World Bank has agreed to buy our carbon credits at a very favourable price. If we create the credits, they must buy them at that price. The Kyoto Protocol's Clean Development Mechanism (CDM) means that carbon reductions in developing countries can be used to fulfil reduction obligations of rich nations. The

CDM will end in 2020, of course, but we are convinced that there will be some other kind of emissions trading in the future. That was agreed at the UN climate summit in Paris in 2015.

**Which international agencies are supporting your work so far?**

In the first eight years the funding primarily came from small private foundations. The Ikea foundation is the largest funder. Oikocredit has recently bought Inyenyeri shares for € 1 million. That will give us the kind of momentum that will give investors confidence. We are building a profit-making, private-sector business to solve problems that affect human health and the global environment.



**ERIC REYNOLDS**

is the founder and chief-executive officer of Inyenyeri. He is an entrepreneur from the USA who moved to

Rwanda eight years ago. To present the Inyenyeri approach, he attended the Innovate-4Climate conference in Frankfurt in May. It was hosted by the World Bank, Germany's Federal Ministry for Economic Cooperation and Development and other partners.

[info@inyenyeri.com](mailto:info@inyenyeri.com)

<http://www.inyenyeri.com>

## Oikocredit invests in clean cooking

Around the world, some 3 million people depend on coal, wood and other unhealthy fuels for cooking fires. The fires cause carbon emissions as well as toxic smoke. According to the World Health Organization (WHO) about 3.8 million people die every year of illnesses that are related to indoor air pollution. Deforestation, moreover, needs to be kept in check, so alter-

natives to cooking fires are needed.

Inyenyeri, a Rwandan enterprise, is providing such an alternative. The idea is to use energy-intensive wood pellets instead of charcoal, reducing biomass consumption as well as smoke. This technology protects human health – and the global climate.

Since May 2018, Oikocredit is supporting Inyenyeri.

For more than 40 years, this international cooperative has not only been involved in micro-credit schemes, but also bought shares of promising partner companies in developing countries and emerging markets. Since 2014, Oikocredit has been promoting renewable-energy projects that contribute to improving poor people's standard of life.

Oikocredit has bought €1million's worth of convertible Inyenyeri bonds. The investment is meant to help Inyenyeri to establish the business model in Rwanda. "We are convinced that Inyenyeri

can improve masses of people's way of life," says Matthias Lehnert, the chief executive of Oikocredit Germany. David ten Kroode, an Oikocredit expert on renewables, sees scope for expansion into other countries: "We want our investment to pave the way, so other investors will support the shift to clean cooking technology too."

As Oikocredit points out, the investment serves the seventh Sustainable Development Goal (SDG): "affordable, reliable, sustainable and modern energy for all".

Franziska Wekenborg



# Inadequate infrastructure

**This year, Cape Town is learning lessons the hard way. The city's water crisis affects everyone – from urban planners to residents.**

**By Majaletje Mathume**

The reservoirs of six major dams normally supply Cape Town with water. Their storage levels were at record lows at the end of the 2017's rain season. From then on, the big question was: will the taps run dry in an agglomeration of 4 million people?

At first, people made fun of the looming crisis. For example, I got phone calls from family and friends who mockingly enquired about the last time I had taken a shower. But as the water levels in the reservoirs kept going down, panic set in.

The national government's Department of Water and Sanitation (DWS) advised the city to keep its water consumption under 500 million litres a day. The city responded with a target of 450 million litres per day. The figure means that people may only use 50 litres per day per person. The implication is that showers become a luxury. Households that use too much water are fined. However, the water utility lacks reliable data on water leakages, illegal connections and other losses.

The city announced a disaster plan. The plan has three phases:

- In the first phase, water-demand is strictly managed.

- In the second phase, only critical institutions such as hospitals will be serviced. The phase will be triggered, when the storage level of the reservoir drops to a certain level.
- In the third phase, no more surface water will be available, and bottled water is to be distributed to the people. This phase starts on "day zero".

Initially, experts expected 12 April to be that day. Government officials now reckon that day zero may occur next summer. Things have turned out a bit better than feared, so the crisis did not escalate beyond phase one.

First of all, Cape Towners consumed nearly 50 percent less water per person in the first months of this year than they did in the respective months of 2015. Nonetheless, the target of 450 million litres has been exceeded by about 15%. Some rainfall helped to improve the dams' storage levels.

The crisis is not over however. The bitter truth is that Cape Town is simply not prepared for the kind of drought that has hit South Africa. Climate patterns are changing. The South African Weather Service, a government agency, forecasts a consistent decline in rainfall for the country, along with longer and much warmer summers. Scientists say that the current crisis is linked to the El Niño phenomenon, a multi-year oscillation of ocean temperatures. It is obvious, however, that previous El Niño phases did not lead to this kind of crisis.



Quite evidently, South African authorities failed to plan for rapid urbanisation. From 1995 to 2015, the population of Cape Town grew by more than 50%. Investment in water and sanitation infrastructure did not keep pace. Professor Horman Chitonge from the University of Cape Town says that many cities across the continent rely on old infrastructure, so demand tends to exceed capacities considerably.

Moreover, the coordination between the three levels of government (local, provincial and national) is poor. Confusion and conflict are common. Indeed, the city of Cape Town actually threatened to sue the DWS for failing to provide necessary support. On 8 February, the DWS therefore declared a national disaster in the three Cape provinces. As a consequence, additional funding has become available.

The city of Cape Town is now considering future options. It is piloting a desalination plant. Moreover, the exploitation of ground water resources is being taken into account. The urban planners know that they must find alternatives to the current over-dependence on surface water.

The situation remains tense. Nonetheless, the people hope that national, provincial and local authorities have learned important lessons. The most important is probably that drought does not lead to water shortages. Water shortages result from inadequate infrastructure – which, in turn, is evidence of planning failures. Climate change has no mercy on authorities that are stuck in the past instead of rising to the challenges of the future.



**Cape Towners filling containers with natural spring water in February after the city authorities limited per-head consumption.**



**MAJALETJE MATHUME**  
is a South African student activist.

[majaletjet@gmail.com](mailto:majaletjet@gmail.com)

# Feeling the heat

**Due to the rising sea levels, Benin's coasts are being eroded faster than previously. Residents of Cotonou's seaside neighbourhoods have lost property. Urban people are feeling other impacts as well.**

**By Karim Okanla**

Coastal erosion is nothing new, of course, but it is becoming stronger. Cotonou, Benin's commercial capital, is affected. Experts warned of catastrophe as early as 2000 unless vigorous action was taken immediately. Though the government has not been idle, the problems are growing.

The advance of the Atlantic Ocean has wreaked havoc on the coastal village of Djéffa, for example. It is situated halfway between Cotonou and Porto-Novo, Benin's nearby political capital. The waves have washed away huts in which people lived. The shoreline has moved north by several dozen meters. Uncontrolled sand mining on the beach compounded the problem of course.

A new urban neighbourhood of Cotonou is being hit too. It is called PK 10. It is only a few kilometres away from the downtown area. Homes, hotels and beach resorts have been lost to the sea. The once popular Palm Beach Hotel, for example, collapsed. Many of the buildings still standing in PK 10 may be doomed as well. Experts reckon the sea level will rise by up to 60 centimetres in the next 20 years. Investments in the growing tourism industry, which the incumbent

government has vowed to promote, are similarly under threat.

The challenges are huge. Embankments and other kinds of coastal protection must be fortified. Indeed, parts of Cotonou, a city with a population of more than 1.5 million, lie below sea level. Should there be violent floods, they could be submerged and possibly even wiped off the map.

The efforts made so far have proven insufficient. In 2008, the government launched a project to protect the coastline. It spent the equivalent of € 4 million on concrete barriers and levees along strategic parts of the coast. However, erosion has worsened nonetheless – and the trend was actually compounded by refurbishing and extension works at the Free Port of Cotonou. The harbour and its access routes were deepened.

In 2014, the government started more forceful efforts to protect the coast, building new levees near the Free Port. So far, € 70 million have been spent. In other places, measures are being taken at the local level. To really control erosion, however, much more needs to be done.

International action deserves consideration. Other coastal cities in West Africa face similar problems, including Lagos and Lomé. Important roads, including the one from Cotonou to Lagos, run along the shore. Massive flooding may thus disrupt vitally important traffic.

Infrastructure work in Lagos, moreover, may aggravate problems in Benin. The



port facilities of Nigeria's commercial hub are being expanded too. The good news is that donor institutions such as the World Bank have expressed readiness to provide the funding. On the other hand, it is obvious that action must be taken at the grassroots level everywhere. International schemes will only ever be as good as their local implementation.

Climate change is affecting urban life in other ways as well. Experts at Benin's University of Abomey-Calavi say that weather patterns are changing in different ways in the various regions of Benin. Two common trends, however, are more heat and less precipitation. The rainy season has become unpredictable, and the intensity of precipitation has dropped by an alarming 50 % to 74 % in the past five years.

Crops have been lost, and domestically grown food has become rarer and more expensive on urban markets. Moreover, according to surveys by the University of Abomey-Calavi, meat and milk production has dropped, and previously unknown diseases are now affecting the health of livestock across the country. As consumers in Porto-Novo know, moreover, freshwater fish is becoming ever more costly and harder to find.

Part of the reason is that a local river in Porto-Novo is now clogged with invasive and obnoxious plants almost all year round. The vegetation is a potent fish repellent and makes it harder for fishermen to cast out their nets. Less rain, moreover, means that rivers' water levels are lower than they used to be.



**Unprotected shoreline in Cotonou.**



**KARIM OKANLA** is a lecturer at the Houdegbe North American University Benin in Cotonou. [karimokanla@yahoo.com](mailto:karimokanla@yahoo.com)



# All too modest goal

Many climate economists believe that setting a global price for carbon emissions is “the” most valuable instrument in the fight against climate change. But achieving that goal is unrealistic in the absence of a world government. A powerful complement is carbon shadow pricing. Unfortunately, the World Bank’s current approach is far too moderate.

By Hans-Jochen Luhmann

The call for a global carbon price was raised before the Rio Earth Summit of 1992, but it has gained new momentum in connection with the Paris Climate Agreement. A uniform price could result either from a tax on carbon or from some kind of global emissions trading. Such a price, however, would have to be enforced within a homogenous world-trade area. This is an unrealistic notion. Such an area neither exists nor is it needed. There is also no globally valid energy price, it varies from place to place.

For another reason, the idea that “the” global energy price – and a surcharge for carbon emissions – is what guides the global energy business is at best half true. The point is that the market price, which applies to everyday transactions, differs from the shadow price, which is used to plan long-term infrastructure projects with regard to energy use.

Typically, multiple factors affect the production of goods. Energy consumption is only one of them. How factors are assessed varies very much. After all, the factors themselves vary very much, particularly with regard to operational life spans and planning horizons. For example, taking a road trip by car requires three things:

1. fuel (the operational life span of which is measured in hours or days),
2. a car, with its specific energy needs (operational life ten years or so), and
3. a highway system, which has an impact on vehicles’ energy consumption due to maximum allowable speeds and construction aspects such as curve radii (life span approximately 100 years).

The guiding idea of carbon pricing is to shape decisions concerning all relevant

factors. An economically appropriate price should be taken into account.

Obviously, a carbon surcharge will raise the costs of fuel consumption. It is utopian, however, to think that it would ever mark – or even less guide – how a car’s energy requirement is designed. Reality has shown that the opposite is true. Yes, cars have been becoming more fuel-efficient, but their size has increased so much that new models now mostly need more, not less fuel.

As for decisions regarding the third road-trip factor – highways and their design – German planners have been taking carbon prices into account for decades. This is done within the framework of the Federal Transport Infrastructure Plan. Currently, a price of € 145 is assumed per metric ton of carbon-equivalent emissions for the year 2030. This price is assumed to reflect the costs of the damage carbon emissions cause.

## COMMON PRACTICE FOR DEVELOPMENT BANKS

It is common practice to use shadow prices when planning infrastructure projects in developing countries. Doing so is actually a planning maxim of international development banks (IDBs). Of course, any project proposal must be cost-efficient, in the sense of returns amortising the costs. Nonetheless, “cost-efficiency” is a vague notion. Project reviews therefore normally rely on two analyses, with both an “economic analysis” and a “financial analysis” being done.

Development banks typically lend money to a government or a government-run enterprise. It is the government’s job to ensure that its people get the maximum economic benefit. That, at least, is what foreign donor institutions require. Accordingly, the government should base its decisions on the economic analysis. The supplementary financial analysis is meant only to guarantee that it – or its company – stays viable under the pressure to deliver public goods.

This double assessment was included in IDB rules for a simple reason. Economic and fiscal data most likely diverge. That is the case, for example, in countries with

regulated exchange rates or regulated labour markets. The typical results include black markets for foreign currencies and labour, respectively. The prevailing black market prices reflect scarcity far more accurately than do the administrated prices on regulated markets. Since a regulated market is not a free market, its function of balancing supply and demand is distorted.

If one accepts that state interventions distort market dynamics, a logical conclusion is that foreign-exchange markets and labour markets tend to be distorted too. For decades, IDBs have been using shadow prices to adjust planning to such distortions. In principle, shadow prices could serve to offset all kinds of external effects.

## INSUFFICIENT COMMITMENT

At the “One Planet Summit” in Paris in December 2017, the World Bank committed to applying a shadow price on carbon and other greenhouse-gas emissions in the economic analysis of future projects concerning high-emission sectors. That is its contribution to decarbonisation.

The World Bank Group has not provided much information on this process, which is already underway. However, there is a guidance note that took force in November 2017. It addresses the use of greenhouse-gas shadow pricing in economic analysis. It includes a graph of dollar prices for carbon-equivalent emissions, spanning from the present to the year 2050. It has a low-price and a high-price scenario. For 2050, the shadow price thus ranges from \$ 80 to \$ 160 per metric ton. However, highly respected climate economists currently reckon that \$ 400 will be appropriate in 2050 (see Rockström et al., 2017).

According to the guidance note, the shadow prices are to be used in the analysis of all projects for which greenhouse-gas emissions must be applied. This applies in particular to projects in the energy sector, and it is especially relevant when a choice must be made between fossil fuels and renewable energy sources.

Unfortunately, the World Bank’s shadow-price scheme only reflects the “social value” of reducing emissions, rather than the entire “social costs”. It is true what the guidance note explicitly states: that the purpose of shadow pricing is “[to] account for carbon externalities in economic analysis of the pro-



Road construction in Kenya: carbon prices are relevant for infrastructure planning.

ject". Nevertheless, it is geared only towards the "social value", which does not reflect the damages done by climate change. Instead, the shadow price is designed only to reflect the emission-reduction targets the countries in question have adopted. It thus corresponds to the estimates made by the High-Level Commission on Carbon Prices last year. The Commission was led by the renowned economists Joseph Stiglitz and Nicholas Stern.

The World Bank's guidance note points out that it is necessary to factor in the abatement costs in the (actually quite probable) event of governments not implementing the policy measures needed to live up to their emission-reduction pledges. The scheme is merely designed to compensate for such policy deficiencies.

The "social value" of greenhouse gas emissions must therefore not be understood as an attempt to internalise external effects and take account of damages. It only serves a much more modest goal. It simply reflects the abatement costs of governments' failure to take appropriate action after signing the Paris Climate Agreement and submitting Nationally Determined Contributions (NDCs).

#### SOURCES

World Bank Group's announcements at the One Planet Summit:

<http://www.worldbank.org/en/news/press-release/2017/12/12/world-bank-group-announcements-at-one-planet-summit>

World Bank guidance note on the use of shadow prices of greenhouse gases: <http://documents.worldbank.org/curated/en/621721519940107694/Guidance-note-on-shadow-price-of-carbon-in-economic-analysis> Rockström, J., Gaffney, O., Rogelj, J., Meinshausen, M., Nakicenovic, N., Schellnhuber, H. J., 2017: A roadmap for rapid decarbonization. *Science*. 355 (6331): 1269-1271. DOI: 10.1126/science.aah3443.



[jochen.luhmann@wupperinst.org](mailto:jochen.luhmann@wupperinst.org)

**HANS-JOCHEN LUHMANN** is an emeritus expert at the Wuppertal Institute for Climate, Environment and Energy.



# Sustainability pays

Normally, it takes laws and regulations to make private-sector companies act in a socially and environmentally responsible way. In many developing countries and emerging markets, governments are not in the position to pass and enforce such rules however. Managers must be made aware of why sustainable business models make sense nonetheless. Indeed, many companies are assuming responsibility voluntarily – not least, because it makes them stronger.

By Martin Geiger

DEG funds and supports businesses in developing countries, but also provides advice on the opportunities that go along with environmental and social sustainability. Successful companies provide ample evidence.

company uses other companies' saw dust as well as small pieces of wood that result from the sustainable management of municipal forests. The MDF boards are certified according to North America's Eco-Certified Composite (ECC) Sustainability Standard. Moreover, the company has set up a bio-mass plant to generate electricity and heat. This will reduce carbon emissions in nearby municipalities, where the use of diesel generators was previously common. DEG gave advice on how best to combine MDF production and power generation.

Even companies that use up-to-date technology have scope for improving resource efficiency in production lines, buildings and logistics. Greater efficiency lowers costs. Deep Catch Trading is an example from Southern Africa. This company stores,

taics and insulation of the freezer-facility roof. The company reduced carbon emissions, and the investment costs were recovered within a few years.

The certification of products and production processes, moreover, gives companies access to additional markets. In southern Brazil, for instance, a DEG partner is doing forestry according to the sustainability standards of the Forest Stewardship Councils (FSC). Thanks to FSC-certification, its goods are now being sold in the USA.

It takes an extra effort to comply with international environmental and social standards in developing countries and emerging markets. The effort pays off, however, for example in terms of facilitating access to financial-service providers. This was confirmed last year by an independent consultancy which evaluated financial intermediaries on behalf of DEG.

Human resources matter too. Though this issue has not attracted much attention in sustainability discourse so far, managing staff in an appropriate way is essential for sustained success. Once more, Deep Catch Trading is an example. The company grew fast for two years, but then struggled to find competent new staff. Consultants helped Deep Catch to identify exactly what skills were needed, and on this basis the company defined requirement profiles for existing jobs as well as for positions yet to be created. Moreover, it developed training programmes concerning leadership, marketing and customer service. Deep Catch soon hired additional people, most of whom stayed with the company long term. As a result, profits are increasing.

Examples like these prove that environmental and social sustainability contributes to private-sector success in developing countries and emerging markets. The approach helps companies to prepare for future challenges, stay competitive and keep developing.



With DEG support, Deep Catch Trading made its warehouse more energy efficient.

For example, a company can use waste to generate power, which helps to reduce costs and can even become a business model in itself. In Mexico, DEG is financing a leading wood-processing company which diversified into producing medium-density fibre (MDF) boards. For this purpose, the

transports and markets frozen food. The cooling system accounts for the lion's share of its energy use. After advice initiated by DEG, several simple, but most effective investments were made in a warehouse and an office building in Windhoek, Namibia. The measures included heat recovery, photovol-



**MARTIN GEIGER**  
heads the Department for  
Sustainability and Corporate  
Governance at DEG –

Deutsche Investitions- und  
Entwicklungsgesellschaft, which is Germany's  
development finance institution. It supports  
private-sector investments and is part of KfW,  
Germany's governmental development bank.  
[martin.geiger@deginvest.de](mailto:martin.geiger@deginvest.de)



Bus station for shared-taxis in Kampala, the capital of Uganda.

## Combining digitalisation and mobility

**Transportation accounts for about a fourth of humanity's greenhouse gas emissions. To protect the climate, internal combustion engines must be replaced with electric ones. However, the transformation will unfold in different ways in different countries.**

**By Klaus Gühr and Friederike Bauer**

Two mega-trends are shaping the debate on new, more sustainable forms of mobility:

- digitalisation and
- the shift away from the internal combustion engine.

Both trends are playing out differently in industrialised and developing countries, and they will probably continue to do so for the foreseeable future.

In industrialised countries and highly dynamic emerging markets like China, the days of cars with internal combustion engines seem numbered. They are slowly being replaced with battery-powered vehicles. This change requires significant investments. Even in OECD countries, the charging infrastructure remains inadequate, and that is slowing down the expansion of e-mobility. It is therefore hard to predict how long the transformation will take.

So-called bridge technologies, which are already available, must help make the transition. Relevant technologies include hybrid cars, natural-gas powered cars or particularly fuel-efficient conventional cars.

The other big trend is digitalisation. It applies ever more to mobility. Almost all modern modes of transportation depend on digital solutions. Car companies increasingly see themselves as service providers and are diversifying business models to include car sharing or even grocery delivery directly to the car trunk. Moreover, internet companies like Google are experimenting with self-driving cars. Such trends show that cars of the future will be based on sophisticated electronics, have internet connections and be networked with other vehicles.

At the systemic level, digitalisation offers significant opportunities for greater sustainability. For example, coordinated signal phases, traffic control systems and usage based toll systems can contribute to



managing traffic flows better. In a few years, self-driving cars will be a viable option, opening up new possibilities.

Inner cities could be freed from the cars that currently are parked there about 80% of the time. Moreover, an inner-city toll could direct individual traffic flows towards public transportation, blurring the boundaries between the public and private transport. Commuters of the future may use smart-phone apps to order self-driving taxis to take them to the next metro station. Perhaps they will share those taxis with others. Then, after leaving the metro, people might use rental bikes to get to their final destination.

What matters in this kind of scenario, is not the individual mode of transportation, but rather the smart combination of different modes. Digital coordination will ensure optimal use. Ideally, this approach will make commuting more comfortable, faster and less polluting than it is now.

## THE AFRICAN SCENARIO

For three main reasons, things are likely to turn out quite differently in Africa:

- Population growth – the UN estimate that the world's urban population will grow by 2 billion by 2060. The majority of those people will live in African agglomerations. The cities concerned are poorly equipped to deal with today's traffic, and the situation will get even worse unless urban infrastructures are improved fast.
- More personal cars – the emergence of a middle class has increased the demand for individualised mobility. If business continues as usual, the World Economic Forum expects the number of personal cars to double to 2 billion by 2040. Most of that growth would be in developing countries and emerging markets.
- Inadequate electricity supply – in almost all African countries, the supply of electric power is insufficient, and the existing capacities mostly depend on fossil fuels like coal and oil. Furthermore, in almost all developing countries and emerging markets, power transmission and distribution systems are underdeveloped. The additional power that would be needed for widespread electro-mobility will therefore not be available for a long time.

The implication is that, though the switch to e-mobility is necessary, it is un-

likely to happen any time soon. On the other hand, digitalisation could have a positive impact on traffic behaviour and mobility patterns in the global South. The reasons are the low barriers to entry and the people's affinity to technology. The example of smart-phones has shown that "leap-frogging" is possible – and that could be the case once more when it comes to mobility.

As a matter of fact, some digital applications were invented in developing countries and are now making their way to Europe and North America. This shows that great leaps forward do happen. The innovations extend from mobile banking to bike sharing models. Moreover, web-based taxi-booking systems have fast become popular in developing countries, sometimes modifying the existing shared-taxi systems. Innovations of this kind are appealing not only because they are efficient, but also because they offer women more security than do buses or metro trains. Another new option is to better link taxi-sharing schemes with newly-created public transportation systems.

While the electrification of transportation will proceed much more slowly in developing than in industrialised countries, digitalisation is likely to bring about progress in mobility in different and unexpected ways. Some probably cannot even be imagined yet.

Despite currently lacking sufficient electric power, developing countries should bear in mind that the internal combustion engine will eventually be phased out there as well. This approach serves planning security and is in line with current trends in transportation.

For practical purposes, this means that developing countries and emerging markets should prioritise the expansion of public transportation in urban areas. The success of bus rapid transit systems in Latin America since their inception 25 years ago shows that solutions to pressing traffic problems can be found – and that they can be implemented with comparatively small investments and a manageable amount of planning (see Nicholas Hollmann in D+C/E+Z e-Paper 2016/10, p. 18). These systems are inexpensive and can be set up fast. Acceptance, however, depends on the buses being linked well to other modes of transportation, including shared-taxis and non-motorised transport.

A solution for some cities might be light-rail systems. So far, there are only very few in African cities. It is true that they are expensive and require a lot of planning, but they pay off in the long run – particularly in view of the fast growth the cities concerned are set to experience.

Another option is smaller vehicles, such as electric-powered two- or three-wheelers. Some models are already cheaply available and can carry a considerable weight. If this kind of e-mobility is adapted to income levels and spotty power supply, it can help to reduce energy consumption and facilitate further network expansion. Such a tailored approach to individual mobility could be implemented fast in developing countries.

On the other hand, electric self-driving cars are unlikely to mark urban traffic in Africa in the foreseeable future, with the possible exception of a few spearheading metropolises such as Nairobi, Johannesburg or Lagos. The lack of electric power is not the only reason. The other one is that 20 million young Africans will be leaving school every year and looking for jobs. Unemployment is already high, so drivers are available for rather low pay – and that is likely to put a brake on the self-driving trend.

All things considered, it is obvious that the bridge technologies mentioned before – hybrid, natural-gas and fuel-efficient engines – will be needed for much longer in Africa than in industrialised countries. They are the level of sustainability that is achievable in current circumstances – and getting there is actually quite ambitious. As things stand, Africa needs a transportation transformation and can manage it – but the transformation will look differently and occur later than in the global North.



**KLAUS GIHR**  
directs the KfW Development Bank's Sector Policy Unit for Infrastructure and Natural Resources.

[klaus.gihr@kfw.de](mailto:klaus.gihr@kfw.de)



**FRIEDERIKE BAUER**  
is a freelance journalist specialising in foreign affairs and global development.  
[info@friederikebauer.de](mailto:info@friederikebauer.de)

# Changing attitude

**Innovative legislation compels authorities in the Philippines to manage and reduce disaster risks systematically. This is a new paradigm. Even though they hit the archipelago regularly, natural calamities were previously seen as one-off events.**

By Raissa Robles

Natural disasters are part of life in the Philippines' over 7,000 islands. By the time many Filipinos turn 21, they are likely to have experienced more than 200 tropical cyclones with top wind speeds of at least 118 km/h. Storms often cause severe flooding and landslides. Earthquakes and volcano eruptions are common too.

In 2017, the Philippines with 100 million people ranked third behind the Vanuatu and Tonga, two small Pacific island nations, according to the World Risk Index. The index is compiled by an alliance of German non-governmental organisations ("Bündnis Entwicklung Hilft") and assesses 173 countries' exposure to natural disaster risks as well as their ability to cope.

"Whether natural hazards turn into disasters depends not only on the intensity of an event but is also crucially determined by a society's level of development," says Isagani Serrano, the president of the non-governmental Rural Reconstruction Movement and a co-convenor of Social Watch Philippines.

Pedro Walpole of Ateneo de Manila, a highly respected Catholic university, agrees. In his view, natural events like typhoons only become disasters when humans die. His grim forecast is this will continue to happen because "in the Philippines, we have an awful lot of very poor, marginalised people who have no place to go."

This view is reinforced by Social Watch data:

- Over half the nation's people live along coastlines, exposing them to typhoons and storm surges.
- Slightly more than a quarter are so poor that they cannot recover material losses or repair damages.

- One fifth are undernourished, so they are vulnerable to the health challenges of a storm's aftermath.

Filipino's traditional attitude to calamities is best expressed by the aphorism "bahala na", which means "let's leave it up to God". Foreigners often consider it fatalistic. Filipinos seem to be resigned to accept nature's wrath. The prominent scholar Alfredo Lagmay, who passed away in 2005, proposed a rather different interpretation of "bahala na" however. He argued it invited risk-taking while faced with possible failure. "It gives a person courage to see himself through hard times," he said. It is "like dancing with the cosmos."

For decades after independence in 1946, government responses to disasters were largely fatalistic and opportunistic. All administrations basically followed the same morning-after-the-storm ritual. The idea was that little could be done to prevent disasters, so policymakers' job was to deliver relief fast after a disaster struck. Affected families were crammed in school rooms until floods subsided. Typically, bags of rice



and food cans were marked with the name of the politician who doled them out. Relief efforts were thus really re-election efforts. This practice has fallen into disrepute.

Apart from handing out supplies, there was no job for local governments. It was the army's task to conduct search and rescue missions. It also cleared and repaired roads.

Failure to handle a catastrophe competently could end political careers. Typhoon Ketsana flooded Metro Manila in September 2009. Then President Gloria Macapagal-Arroyo had groomed her Defense Secretary Gilbert Teodoro to run for president in 2010. He failed miserably to send rubber boats to rescue trapped homeowners from the flood waters – and that contributed to sinking his presidential campaign. Under the impres-



One year after Typhoon Haiyan, this gym on Leyte island was turned into a provisional shelter as another tropical storm was approaching.



sion of the typhoon, however, the government changed its stance.

### INNOVATIVE APPROACH

In 2010, the Arroyo-dominated Congress approved landmark legislation. It created the National Disaster Risk Reduction and Management Council (NDRRMC). Both disaster risk management (DRM) and disaster risk reduction (DRR) were innovative concepts. The new law fulfilled the Philippines' commitment to implement the Hyogo Framework for Action, which had been the result of a UN conference on resilience building in Japan in 2005.

The new law marked a paradigm shift, according to Carmelita Laverinto of the Office of Civil Defence. She says that governments and relief agencies earlier viewed disasters as "one-off events" and responded accordingly. In her view, neither the social and economic implications of disasters nor their causes were appropriately taken into account.

By contrast, the new law directed the bureaucracy to be "proactive" instead of merely "reactive". From the national level down to the local government units (LGUs – towns, cities and provinces), state institutions must now implement DRM and DRR.

DRM has become a year-round agenda with the NDRRMC setting targets and policies for disaster preparedness. LGUs must now prepare "hazard maps", identifying areas that are prone to landslides, storm surges, flooding and other disaster impacts. Previously, such maps – if they were prepared at all – were kept secret. Real estate developers used political connections to build, for instance, housing on dry river beds and landslide prone areas. DRR is about decreasing the vulnerabilities and boosting capacities of the communities concerned.

In an audit in 2014, Laverinto found that:

- no town or city had yet been awarded the national Seal of Disaster Preparedness, and

- the main reason was the mismatch between institutional responsibilities and LGU capacities.

The LGUs simply lacked staff trained in DRR and DRM. They also lacked mechanisms for early warnings, search and rescue missions, evacuation, health care et cetera. Things have improved a bit since 2014, and several dozen cities and towns have won the seal in the meantime. One reason was certainly Typhoon Haiyan.

### TYPHOON HAIYAN

In November 2013, Typhoon Haiyan brutally showed that local level resilience had not been built adequately. The super storm devastated the city of Tacloban, the island of Leyte and, more generally, the Visayas region in central Philippines. International humanitarian agencies soon arrived. Their interventions were badly needed and welcome, though some downsides were noticed (see box below).

## Unspoken competition

Typhoon Haiyan – which was also called Typhoon Yolanda in the Philippines, triggered an enormous and generous outpouring of foreign aid from non-governmental organisations, faith-based charities and UN agencies. One veteran of international disaster relief, however, became keenly aware of the efforts' downsides.

In the devastated city of Tacloban, Karl Gaspar, a Catholic monk, saw NGO workers staying in the most expensive hotels, eating in the best restaurants and cruising in brand new SUVs through streets "where dead bodies wait to be identified and buried in mass graves". Moreover, he noted that many pledges never materialised. In his book (Gaspar 2014) on the experience, he wrote: "As of 8 September 2014, the country

has received P 71 billion (\$ 1.626 billion) worth of foreign aid pledges in cash and in kind, but only P 15 billion (\$ 349.404 million) has been received so far."

He also noted that there was a serious lack of coordination on the ground. According to Gaspar, collaborative efforts seemed "weak and inadequate" while an "unspoken competition" seemed to exist among humanitarian agencies. He concludes two things:

- Instead of relying on obviously over-burdened local government units, humanitarian agencies should tap the resources of the affected communities to organise relief distribution.
- Assistance should be discontinued as soon as people get back on their feet in order not to encourage aid dependence.



A list of typhoon victims at a mass grave site for 3,000 typhoon victims in Tacloban.

Gaspar pointed out that he did not wish "to disparage all the agencies who came to the affected areas and did manage to serve the needs of the survivors", but added that "one can't help but notice some very disturbing tendencies. The Catholic monk in particular praised the Bhuddhist Tzu Chi Foundation, which is based in Taiwan, for being "one of the first to provide the most needed aid to the survivors".

Gaspar has a long history of personal engagement in the Philippines, by the way. He was a political prisoner for some time during the rule of dictator Ferdinand Marcos. (rr)

### REFERENCE

Gaspar, K.-M., 2014: **Desperately seeking God's attention: Yolanda survivors' hope beyond heartbreaking lamentations.** Quezon City: Institute of Spirituality in Asia.

In the disaster area, Lourdes Padilla-Espenido represented WeDpro, a civil-society organisation fighting for the rights of women and youth. She reports that the “LGUs themselves were traumatised.” Because leading officials and staffers had lost loved ones and homes, it took them long to take action.

However, Espenido saw at least two bright spots of preventive action having delivered results:

- Several houses in the town of Palo, which was nearly levelled, were still standing. It turned out that what they had in common was that they had been constructed according to the Building Code.
- In a coastal area of Capiz province, the storm surge did not smash the community the way it did in Tacloban. Residents told Espenido that they had “been saved by the mangroves”. The village had expanded the mangrove forest with support from a foreign donor.

On the downside, then Tacloban Mayor Alfred Romualdez, who belongs to the extended family of former dictator Ferdinand Marcos, failed to fully warn the residents. The reason was that he did not know what “storm surge” means. Mar Roxas, who was

the national cabinet member responsible for LGUs, forgot to bring a satellite phone to the disaster area. Then President Benigno Aquino III was seen as cold and uncaring because he did not show his emotions. He later said that he had controlled his emotions to get things done. The people of Leyte, however, felt let down.

One of those who was warmly welcomed bringing relief goods to Tacloban in November 2013 was Rodrigo Duterte, then serving of Davao City in Mindanao. Almost in tears, Duterte told the media, “God must have been somewhere else,” when the storm hit.

Today, Duterte is president. It is now his job to protect the nation from disaster. DRR and DRM should be high on the agenda. It is therefore not encouraging that he has slashed the Calamity Fund for disaster relief. For 2016, the Aquino administration had budgeted the equivalent of about \$ 7.4 billion for this purpose. In Duterte’s budget for 2017, that figure dropped by about 40 %. For 2018, the absolute number increased again slightly to \$ 385 million, but it now includes \$ 196 million for the rehabilitation of Marawi, the city on Mindanao which was liberated from an Islamist militia after ex-

tended fighting by the armed forces. It also includes \$ 39 million for the rehabilitation of the world famous island resort of Boracay. The Calamity Fund thus has only about \$ 150 million for any disasters this year. A single typhoon could wipe it out.

Social Watch leader Serrano says Duterte’s cuts were surprising. Given the country’s risk exposure, he says, disaster preparedness must be a priority. On the bright side, while Duterte has lambasted the UN for criticising his extremely violent war on drugs (see D+C/E+Z e-Paper, 2017/10, p. 15), close cooperation continues on disaster relief and mitigation between the NDRRMC and Office of Civil Defense and UN agencies.

#### LINK

**Bündnis Entwicklung Hilft: World Risk Report 2017:**  
<http://weltrisikobericht.de/english/>



**RAISSA ROBLES**  
 is an investigative journalist  
 and publisher based in  
 Manila.  
[https://twitter.com/](https://twitter.com/raissawriter)

*raissawriter*  
<https://raissarobles.com>

## Rapid change

**The narrative of a rapid transformation to a renewable-energy powered economy has been gaining traction in India. The transformation is driven by market forces and reflects changing policy priorities.**

**By Madhuchandrika Chattopadhyay**

The government of Prime Minister Narendra Modi, who was elected in 2014, endorses the transformation to innovative and eco-friendly energy supply in principle. Its New Energy Outlook 2017 report estimates that renewables will account for 49 % of India’s power generation by 2040. Ecological concerns and energy security are relevant considerations, especially as India is an oil importing country.

Indeed, the prices for solar and wind power are plummeting. These technologies are becoming similarly affordable as coal-fired power plants. According to the Central Electricity Authority (CEA), India’s national grid had an installed capacity of more than 330 gigawatt on 31 October 2017. However, total electricity consumption was only about one third of the installed capacity in 2016/17.

The Indian electricity sector is thus being transformed. Potential electricity supply is becoming greater than the actual demand. One must bear in mind that people who are yet to be connected and those with poor supply quality have not been taken into account. Nonetheless, the situation is unprecedented. In the past, the power sec-

tor was always unable to fully satisfy existing demand. Moreover, the energy mix and demand patterns are changing. In view of climate change and concerns about energy security, the attractiveness of wind and solar power is being fully acknowledged.

Fossil fuels account for about 95 % of India’s primary energy supply. The lion’s share is coal with 55 %. India still has considerable domestic coal deposits to exploit, whereas oil and gas must be imported. In the power sector, coal accounts for 59 % of installed capacity and renewables (not counting hydropower) account for 18 %, of which more than half is wind-based. A comparative advantage of solar and wind power is that these renewable sources are essentially infinite.

#### RURAL DEFICIT

India has a huge power deficit in rural areas. More than half of the nation has only little or no access to electricity. The grid is



fractured and unreliable. In remote villages, power supply via the grid remains a far-fetched dream. However, small-scale supply systems that are based on renewables are viable.

India's geography is relevant. It is one of the world's sunniest countries. India has more than 300 days of bright sunlight per year. It could generate close to 5,000 trillion kWh of solar power every year, which is more than the total energy produced by conventional means currently. If the abundant sunshine is captured and used efficiently, it can meet the nation's power demand as early as 2030.

India's private sector is aware of the great potential. The solar energy market is witnessing a boom – both online and on brick and mortar markets. Some online platforms are dedicated exclusively to solar-power devices. They make these products easily accessible to masses of people. Major corporations have entered the market. Banks have announced massive funding for solar investments. Recent reports are very promising, forecasting a 250 % growth of the solar sector in 12 months.

India is a rapidly progressing nation. As industries grow and infrastructure improves, the demand for power will increase. Experts reckon that demand will double within a decade. As conventional energy sources are being depleted fast, their costs rise. Innovative and cheap energy is needed. Solar and wind infrastructure is thus likely to dot India's landscape in the future.

The price of solar panels has come down significantly in recent years. Special batteries that can hold the charge longer are being brought to the markets. It is estimated that the costs of solar installations will fast be reduced even more.

India's wind-power sector has advanced significantly in the past decade. However, only about 22% of the potential has been tapped so far. Several factors make wind most suitable for power generation. The technology is mature and cost-effective. Moreover, it is a non-polluting source of energy. Wind farms only use a small percentage of the land over which they are spread. The rest can be used for other purposes, in particular agriculture.

Wind farms, moreover, require very little water compared with thermal, nuclear and solar-power generation. Small wind-power plants can be installed in areas



**Pioneers: building a wind park in Tamil Nadu in 2002.**

without grid access, improving livelihoods in remote areas. Wind power thus has the potential to become a major contributor to low-carbon and inclusive growth.

In the fiscal year 2016/17, India added 5,400 megawatts (MW) of wind-power capacity. The target was a mere 4,000 MW. The southern state of Tamil Nadu has the largest installed wind-power capacity in India. A wind farm in its Muppandal District is the largest in India with a capacity of 1,500 MW. It accounts for almost 20% of Tamil Nadu's wind capacity. Other leading states are Andhra Pradesh with almost 2,200 MW and Gujarat with almost 1,300 MW.

Biomass is another important renewable source of energy. Currently the potential for biomass power-generation is 17,500 MW, of which India has installed more than 5,900 MW. Some 1,000 MW are off-grid. The national government is drafting a new biomass policy that should boost this specific technology.

## ENVIRONMENTAL CONCERNS

Environmental concerns are driving change as well. Smog is a great problem with serious impacts on public health (see Roli Mahajan in D+C/E+Z e-Paper 2018/04, p. 12). It is closely linked to coal-based power generation, though other factors – such as transport emissions – are relevant too.

Greenhouse gases are a matter of growing concern moreover. For many years, Indian governments insisted that global warming is primarily caused by rich nations and that developing countries have a right to catch up. The stance has changed, and the main reasons include:

- India's exposure to climate risks such as flooding, draughts and storms,

- the increased competitiveness of renewable-energy technologies and
- the insight that per-capita consumption is set to rise.

India's Ministry of Environment, Forest and Climate Change assessed the country's emission profile in 2010. According to its report, India emitted greenhouse gases equivalent to 2.1 billion tonnes of CO<sub>2</sub>. The figure means that India is number three among the world's polluting nations. However, per capita, the nation emitted only about 1.7 tonnes (excluding emissions from land use, change of land use and forestry). The per-capita figure is actually quite moderate. As a rule of thumb, climate change would be contained if all human beings limited their emissions to two tonnes. India is within that range. It is clear, however, that emissions are set to increase as more people escape poverty. Accordingly, the transformation to renewables makes sense.

International experts agree that India should rely on renewable-energy sources in the long run. In their eyes, the government could do more to make that happen. They warn that disputes over land rights can slow down investments in wind farms and suggest that utilities should establish transparent tenders procedures for purchasing energy. Some demand that the national Ministry for New and Renewable Energy draft a hybrid policy to promote wind and solar power.



**MADHUCHANDRIKA CHATTOPADHYAY**  
is in charge of training and projects at the Chandradeep Solar Research Institute,

a private-sector enterprise, in Kolkata.

[info@csr.institute.co.in](mailto:info@csr.institute.co.in)

<http://www.csr.institute.co.in>

# Clean energy

**Prospects for using renewable energy in Bangladesh are promising. Sun, monsoon rainfalls and wind offer abundant resources. An online app could increase public awareness and help implement Bangladesh's renewable energy policy.**

**By Md Reaid Alam**

Modern civilisation depends on energy. In Bangladesh, electric-power generation mostly relies on natural gas and other fossil fuels. Power stations pollute the environment and emit large amounts of carbon dioxide, contributing to climate change.

Renewable energy is the cleaner and more sustainable alternative. Its availability is linked to geographic location and climatic parameters, including temperature, rainfall, air velocity, sunshine duration and humidity. Bangladesh's geography provides good opportunities for renewable energy.

The government of Bangladesh wants to fully electrify the country by 2020. Currently, 38% of the people still do not have access to electricity. About 89% of electric power is generated from natural gas. The share of renewable energy is a mere 0.5%. To meet energy needs, the government is currently establishing a nuclear power plant and a coal-based one. Environmental organisations strongly oppose both, considering them to be unsustainable and dangerous. They worry about accidents, the disposal of nuclear waste, air pollution and carbon emissions.

## HARNESSING CLIMATE DATA

It is safer and environmentally less destructive to generate electricity from wind and solar radiation. Both is feasible in Bangladesh. National and international experts see favourable conditions. It matters, moreover, that grid expansion will not be possible in many parts of the country in the near future. Grid expansion is expensive and does not make sense in remote areas that are hard to reach – for instance, because of major water bodies – or where there are only few consumers with sufficient purchasing power.

In such places, renewable sources make off-grid solutions viable and affordable.

Climate data is available online. I have developed a web application that can help people to use such data. It analyses and visualises long-term average temperatures, wind speeds, hours of sunshine, relative humidity and average rainfall. Users of the app navigate a map of Bangladesh. Different

layers show the potential of different renewable options in specific places. It uses the lowest administrative unit, providing specific information for the areas covered by the police stations (“thanas”).

Various efficiency criteria are used to identify the best renewable energy option for every place. There are options beyond power generation, including solar cookers for example. They are indicated too. Of course, users are free to use the information as they think is best.

From very early ages, coastal people in Bangladesh used solar exposure to make dry fish. Up-to-date solar dryers work best when



**Bangladesh has hardly tapped the potential for solar power so far.**



the temperature is high and the relative humidity is low. They require space, which is generally available in rural areas. The efficiency of solar cookers and ovens basically depends on hours of sunshine and temperatures. Strong winds can affect efficiency. Areas with more than six hours of daily sunshine and low wind speeds are best. My app provides this kind of information too.

Bangladesh's solar exposure is high, and photovoltaic cells are available all over the country. However, it makes sense to choose devices that suit a location's temperature. Heat reduces the efficiency of solar cells, and solar panels must work well when temperatures are high, which is the case in many places.

Coastal regions and mountain areas provide the most favourable conditions for producing economically viable wind power. The minimum wind velocity is three to four meters per second. The best areas for wind-power instalments are the coastal region and the Chittagong hills.

My app offers rainfall data too. Rainwater can be stored in collection tanks on top of houses and drained to the kitchen and toilet for domestic use. If schemes are designed well, natural water flows can be used to pump water into storage tanks. My app uses three categories: areas with high pump



rates, moderate pump rates and low pump rates. The potential for rain water collection is best in the eastern part of the country due to the slopes.

The app can guide government agencies, private-sector companies and civil-society activists. It can boost the understanding of the potential of renewable energy and drive implementation at the local level, maximising power generation for sustainable development. The app can also be used to assess the marketing potential for specific devices.

Bangladesh needs sustainable energy infrastructure. It is a tropical delta country with a vast network of rivers and channels. Soils are fertile, but land is limited, so the scope for farming is limited too. Energy de-

mand is increasing due to economic growth, rapid urbanisation and industrialisation. The country is densely populated, and that is set to get worse. Though annual population growth has declined dramatically from almost three percent in 1980, it was still 1.1% in 2016, according to World Bank statistics.

Of course, my app can be reproduced in other countries. All over the world, climate data is becoming more important – not least in regard to energy production.

#### LINK

To get an idea of how the app works, please go to:

<http://www.arcgis.com/apps/View/index.html?appid=e306dd97ab4548f4ba7d6b0f6a888e7b&extent=81.0917,20.0669,99.5488,29.4211>



**MD REAID ALAM**  
is a geographer from Bangladesh who is currently a post-grad student at the University of Applied

Sciences Stuttgart. His master programme is involved in AGEP – the German Association of Postgraduate Programmes with special Relevance to Developing Countries. He designed the app described in the essay in Stuttgart.

[riad\\_alam@yahoo.com](mailto:riad_alam@yahoo.com)



Join us on  
Facebook!



Primary school in Hevie, Benin. This year's annual PEGNet conference will take place in Cotonou, Benin on 11 and 12 October, 2018. It is dedicated to "Improving the quality of education and learning outcomes in developing countries".

Page 18

