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CROWDFUNDING New approaches for investing in small and mid-sized enterprises

MONTHLY E-PAPER

MATERNAL MORTALITY A health NGO is doing pioneering work in Bangladesh

Climate action urgently needed

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FOCUS

Climate action urgently needed

Tangible climate action

In 2015, the Paris agreement provided new momentum in global climate affairs. Diplomatic success, however, must not blind us to what yet needs to be done, warns Gebru Jember Endalew, who heads the Least Developed Countries Group in the UNFCCC context. According to the African Development Bank's Anthony Nyong, Africa deserves support from the donor nations that caused global warming. They must therefore ensure that they make at least \$ 100 billion available from 2020 on as was promised in Copenhagen in 2009. **PAGES 25, 27**

Rising to the challenge

The least developed countries have drafted action plans to deal with global warming. Senegal and Benin have started implementation with GIZ assistance. GIZ experts Nele Bünner and Till Below report. **PAGE 29**

"We don't need donor money

to forge ahead"

Saleemul Huq is a veteran of global climate summits and is now focusing on networking universities in least development countries. In his eyes, universities are the hubs of capacity building for climate mitigation and climate adaptation.

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Bypassing the White House

US President Donald Trump denies human-made climate change. Jennifer Morgan from Greenpeace International spells out how humankind's most powerful person can be stopped from doing longterm harm. Civil-society activism makes a difference and can make investors shy away from investments in fossil technology. **PAGE 35**

No time to relax

A lot needs to be done at the next climate summit in Bonn in November. The international community must move on from making commitments to drafting tangible strategies and implementing them, demands Thomas Loster of Munich Re Foundation. **PAGE 37**

Asian water supply

Himalayan glaciers are melting. This trend spells trouble for the water supply of billions of people. Sheila Mysorekar of D+C/E+Z reports. **PAGE 39**

Make it happen

Thirty years ago the UN published "Our common future", the report by the Brundtland Commission. The Commission had been appointed to assess the consequences of global environmental change and was chaired by Norway's Prime Minister Gro Harlem Brundtland. The report started a paradigm shift. It introduced the notion of sustainable development, which was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

At first, the new paradigm seemed to gain traction fast. Five years after the report was launched, the UN's Earth Summit in Rio de Janeiro adopted the Framework Convention on Climate Change (UNFCCC) and several other environmental agreements. Yet another five years later, in 1997, the parties to the UNFCCC passed the Kyoto Protocol, with rich nations pledging to reduce carbon emissions.

Soon after, however, the momentum was lost. The USA never ratified the Protocol, other countries did not live up to their commitments, and Canada eventually withdrew. Science denial became ever more forceful. As the French intellectual Bruno Latour has pointed out, the mere fact of climate change has massive ethical consequences. Anyone who accepts the science knows that the only alternative to massive devastation is determined climate protection. The scientific insight tells us that we must phase out fossil fuels. Powerful interest groups – not only, but especially in the USA – do not like this message, so they chose to discredit science. Long before Donald Trump, leading Republicans were already resorting to alternative, post-truth facts. They also claimed that climate protection was unaffordable. Though they normally claim that free markets solve all problems, they now insisted that climate protection would cripple economies.

According to Achim Steiner, the head of the UN Development Programme, precious time was lost because economic models were treated as something like the law of gravity. We are know paying a huge price for this failure to get incentives right. When multilateral climate talks started, the idea was to prevent global warming. That was then. Now we must not only invest in mitigating the phenomenon, but also in adapting to it.

In spite of all the propaganda, the scientific consensus has further consolidated, of course. Today, most denialists admit that global warming is real, but they now insist that the reasons are not well understood. Just like their earlier stance, this one is a reckless attempt to protect special interests to the detriment of the global community. In retrospect we know that non-action was very costly.

In August, the damage done by Hurricane Harvey in Houston, Typhoon Hato in Macao, an unusually strong monsoon in Mumbai and mudslides in Freetown, Sierra Leone were examples of what is becoming ever more likely. The drought-caused hunger haunting parts of Africa is an even worse omen. These events, however, are mild compared with what will happen if climate change leads to tipping points such as the melting of Greenland's ice sheet.

Steiner expresses the confidence that the adoption of the Paris agreement and the Sustainable Development Goals in 2015 show that the paradigm shift is happening. The agenda defined in these agreements is good. The current US administration has tried to derail it, but did not manage to do so. Success is still possible. We must make it happen.

You'll find all contributions of our focus section plus related ones on our website (briefings section): www. dandc.eu/node/3205



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Debate



Election-campaign special

Ahead of Germany's general election, D+C/E+Z turned to the global-development spokespersons of the parties represented in the current Bundestag. We asked the representatives of the Christian Democrats, the Social Democrats, the Leftists and the Greens to elaborate their vision for the next legislative term. **PAGE 11**

Tribune



Over-indebted because of a micro credit?

According to evaluation research, micro credits hardly boost incomes and purchasing power. The risk of over-indebtedness is a core problem. New research, however, shows that clients of formal microfinance institutions are less exposed to this risk. Oliver Schmidt, a freelance consultant, assesses the matter. **PAGE 16**

Crowdfunding for African SMEs

Micro, small and mid-sized enterprises (SMEs) in Africa often lack funding for investments. Rolf Drescher of Germany's Federal Ministry for Economic Cooperation and Development, argues that crowdfunding can be a good option in some circumstances. **PAGE 18** GLOBAL AFFAIRS

Taxation serves sustainability

The SDGs are a sound basis for dealing with the major challenges humanity must rise to. To be able to implement policies, however, governments must generate revenues.

By Hans Dembowski

Humanity is facing four dramatic disruptions, according to Joyeeta Gupta of the University of Amsterdam:

• Climate change and the extinction of species make business as usual environmentally unviable.

• The global financial crisis has triggered far-reaching socio-economic change that has not fully played out yet. • Feelings of deprivation and frustration have given rise to authoritarian populism in many countries, challenging the fundamentals of democracy. Dehumanising xenophobic agitation, moreover, is thriving on people's fear of migration.

• Technology – in particular artificial intelligence and robots – is set to have a huge impact on labour markets and compound problems of social inclusion.

The big question is how to react to these disruptions. In the eyes of Achim Steiner, the administrator of the UN Development Programme (UNDP), the Sustainable Development Goals are a good multilateral response to the disruptive challenges. He points out that the agenda

Urban growth must not lock in unsustainable approaches - selling potatoes in peripheral Dhaka.



was agreed by UN members in a "surprisingly coherent process". It is, moreover, the first international development agenda in 70 years that applies to all nations and not only the poorer ones.

Critics have pointed out that the SDG agenda is voluntary. Others say it should be more focused. Steiner warns against belittling the SDGs. He argues that they deviate fundamentally from previous approaches that were excessively statecentred until the 1980s and excessively market-centred. Unlike the Washington Consensus, the SDGs emphasise collective success rather than competition, with the goal being to foster the "capacity of 7 billion to 10 billion people to act in a sense of solidarity", he points out.

Cities deserve particular attention if the SDGs are to be achieved, argues Susan Parnell from the University of Cape Town. In her view, urban agglomerations are not only centres and sites of transformation, they are actually pathways for transformation. As cities in developing countries are growing fast and an ever larger share of the world population lives in those areas, it is essential to build sustainable physical and social infrastructures immediately, rather than to allow unsustainable approaches to become locked in. Solutions must be found at international, national and subnational levels.

GOVERNMENT REVENUES

To implement policies effectively, governments need money. The tax systems of many developing countries tend to be weak and inefficient, however. Improving them is a global challenge.

Mick Moore from the University of Sussex notes that the OECD (Organisation for Economic Co-operation and Development), has been showing a serious interest in reforming the international tax system and stemming illicit financial flows since the begin of the global financial crisis in 2008. The OECD is an umbrella organisation of donor nations, so its legitimacy in drafting global policies is questionable. Aware of this issues, it is keen on involving other parties, according to Moore. The impact of illicit financial flows on the revenues of developing countries is especially hard.

He regrets that developing countries so far have not formed any coalitions to become involved in the tax debate. One consequence is that the OECD agenda has so far not delivered results that would help them. Lacking up-to date IT-supported taxation systems, Moore explains, they cannot benefit from the kind of automated data-sharing the rich nations are introducing.

The global tax system is complex and incoherent. It results from national laws and bilateral treaties. There is no multilateral agreement to regulate it nor a multilateral institution to manage it. Accordingly, it has many loopholes. As Odd-Helge Fjeldstad of Bergen's Chr. Michelsen Institute points out, there is a huge international industry of banks, accountancies and wealth managers that facilitate tax avoidance (which is legal) and even tax evasion (which is not). He says an international tax convention would be useful, but acknowledges it is unlikely to happen.

It is close to impossible to tax the informal sector, which tends to be huge in developing countries. Nonetheless, scholars agree that developing countries could boost their domestic revenues from the formal sector easily and fast if governments mustered the will to do so. Catherine Ngina Mutava of Strathmore University in Nairobi says it is time for African countries to "get their act together". The problem, according to her, is that government leaders often pay more attention to providing their countries' wealthiest people with loopholes than to generating revenues. After all, they tend to belong to this group themselves.

Mutava reports a current example. Ahead of the recent election, the Kenyan government rushed through legislation to establish a tax haven in its own country. Financial institutions operating there are exempt from national rules and regulations as well as from central-bank oversight. The president and the vice-president are members of this tax haven's board. Mutava says that "elite capture" is common in many African countries.

THE NORDIC MODEL

Things are different in Scandinavia, where societies are known to be egalitarian. According to Karl Ove Moene of the University of Oslo, the general perception of Nordic countries massively redistributing incomes with taxes is distorted. The truth, he says, is that pre-tax incomes diverge less than in most other countries. The reason is that the technology used by the highest earners is only about 110% more productive than the technology used by the lowest earners. The comparative figures are 330% in the USA and an astounding 2260% in India.

Scandinavian governments do not simply take money from the rich and hand it to the poor. Taxation matters in a different way, as Moene recently argued at the EADI Nordic Conference, which was hosted in Bergen in August by local academic institutions, the Norwegian Association for Development Research (NFU) and the European Association of Development Research and Training Institutes (EADI). Properly funded states can build infrastructure and provide good public education and health care. According to Moene, these things empower large numbers of people to acquire and use the skills they need to earn good wages.

Moene thinks, orthodox economists are wrong to merely consider the costs of welfare-state policies. For masses of people,



the same policies reduce the costs of essential services, which allows them to become more productive, get higher incomes and accelerate their nation's economic growth. Well-regulated capitalism, Moene argues, is not only capable of limiting inequality, but actually thrives on doing so. After all, Scandinavian countries have proven to be good at adapting to innovations and changing world-market trends.

LINK

EADI Nordic Conference 2017: http://eadi-nordic2017.org/ Videos of plenary sessions: https://www.youtube.com/ watch?v=ATZlhb85lps (Gupta, Steiner, Parnell), https://www.youtube.com/watch?v=ooPQ n2Rlip0&feature=share (Moore, Fjeldstad, Mutava) https://www.youtube.com/watch?v=ARqAFM_ W7oo (Moene)

Don't get distracted by administrative concerns

As an academic field, development studies is changing. It is responding to international trends such as the rise of emerging markets, climate change or global migration. Leading scholars argue that development researchers must not only give technocratic advice to governments. They must also come up with critical political theory.

Twelve years ago, a group of European development scholars drafted a vision for international development studies. To what extent this vision is still valid was discussed at the general conference of EADI (European Association of Development Research and Training Institutes) in Bergen, Norway, in August. It was generally accepted that vision's core tenets still hold true, including that the field

• is inter- and multidisciplinary,

• focuses on understanding social, economic, political and cultural aspects of change and

• is geared to solving issues relating to development processes and inequality.

In important ways, however, the field is adapting to a changing world. Elisabetta Basile from the University of Rome considers it essential to pay more attention to "knowledge production in the global South". The time when development studies was basically about scholars from Europe and North America trying to find out how countries in Africa, Asia and Latin America could become more like their own is over. In view of environmental and other challenges, moreover, change is needed in the supposedly developed world too.

Edith Phaswana from the University of South Africa calls for a "decolonisation" of scholarship, emphasising that the historical context must be considered if one wants to understand the current state of any given country. She reports that some African intellectuals are in favour of delinking entirely from European and North American universities. She disagrees with them, however, because "we must coexist in this world".

According to Gilles Carbonnier from the Graduate Institute, Geneva, delinking has already occurred to a considerable extent in Latin America, where scholars increasingly refer to peers from their own continent and use their own concepts. "Buen vivir" (good life) is probably the best known of these concepts. It stresses the welfare of communities as well as a healthy natural environment.

In the experience of Joost Mönks from the Genevabased education-policy think tank NORRAG, young development-studies communities are growing fast in China, India, Brazil and South Africa. For obvious reasons, it is important to learn the lessons of emerging markets' successes and study their failures.

Our era is marked by inequality and need. It is also marked by authoritarian populists and fake news. In view of these challenges, scholars must do more than give technocratic advice to governments. Isa Baud from the University of Amsterdam, whose term as EADI president ended in Bergen, wants development studies to become politically relevant rather than merely policy-relevant.

Her successor as EADI president, Henning Melber from the Uppsala-based Nordic Africa Institute, agrees. In his eyes, the developmentstudies community should

EADi

advocate "global partnerships with as little asymmetric distortion as possible, despite the continued hierarchies structurally embedded in our unequal world".

In this context, the Sustainable Development Goals are seen as good guidelines for policymakers, but inadequate guidelines for researchers. Uma Kothari from the University of Manchester warns that development researchers must not allow concerns of administrative policy implementation to distract them from the crucial task of spelling out critical political theory.

LINK

EADI President Henning Melber on relevant development research: https://www.eadi.org/ typo3/fileadmin/Documents/ Publications/EADI_Policy_Paper/ EADI_policy_paper_Melber_ August_2017.pdf PEACEBUILDUNG

Trade-offs

Fragile states cannot develop well. Peace promotion is needed in areas of conflict and crisis, but it is a great challenge.

By Katja Dombrowski

Social, political and economic exclusion cause and intensify violent conflicts. Fighting exclusion therefore contributes to promoting peace. That is in line with the goal of the 2030 Agenda to leave no one behind.

"This is not a new concept," stresses Oury Traoré, executive director of the Madiba Institute for Leadership in West Africa. "What is new is the commitment." She says the international community has realised the need for global solidarity. The situation in a single country does not only affect that country. "What is happening in Mali cannot be viewed in isolation – it has global implications," Traoré said during the Berlin Summer Dialogue 2017 hosted by the Development and Peace Foundation (SEF – Stiftung Entwicklung und Frieden). The topic was "exclusion as a cause of violent conflict – strategies for international cooperation". Participants agreed that it is often difficult to tell "good guys" from "bad guys" in a conflict, so it is hard to find out who might play a positive role in a peace process.

According to Ute Finckh-Krämer, a member of the German Bundestag (parliament), potential peace builders are not necessarily those who share western values but those who traditionally play that role. "It is risky to label certain actors or conflict parties as terrorists," she warns. "That renders any negotiations impossible."

In Traoré's eyes, not excluding anyone implies cooperating with questionable governments: "Even in a failed state, the government has to be involved – you cannot bypass them." Lars-Erik Cederman, a conflict researcher, agrees. He insists that one has "to go through the government" as bottom-up approaches are bound to fail. He concedes, however, that there

In Mali, the international community has intervened in conflict using military and other means.



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is a trade-off between stabilisation and change. Some leaders use stabilisation to establish long-term exclusion.

Traoré urges external advisors not to lead but to take over a supportive role without excluding anyone. She says it makes sense to pay attention to women and youths and other groups who might traditionally not be involved in conflict resolution in a given context. "If you don't consider women, you will have no success," she warns. Thomas Helfen of the German Ministry for Economic Cooperation and Development agrees, saying that everyday problems often affect women more directly than men. According to him, it is crucial to see women not only as victims, but as actors in a peace process.

The debate in Berlin showed that there are different kinds of exclusion. For example, intentional exclusion is not like unintentional exclusion, Moreover, conflicts are driven by perceived inequality rather than real inequality. Perceived injustice, however, cannot trigger civil war unless resources and infrastructure are available. According to Indra de Sousa, a political scientist, resources and support are often provided from outside. The Middle East and Afghanistan are prominent examples. He says that western countries are exerting massive influence, for instance by delivering arms.

Luxshi Vimalarajah of the non-governmental Berghof Foundation points to the mediating role of the international community in Yemen. It was heavily involved in the peace talks. "It was a textbook process, a lot of inclusion," she says. "But now we know that important actors were excluded." The negotiations failed, the war is on-going. It mattered, moreover, that the UN security council did not reach consensus, Vimalarajah says.

According to Aurélien Tobi of the Stockholm International Peace Research Institute (SIPRI) diverging goals and priorities are among the main reasons why peace promotion is so complicated: "We want to tackle jihadism, drug trafficking, illegal migration." The problem is that priorities of international partners may differ from those of the national government which may again differ from those of local civil society, he argues. "We say they don't have the political will – but maybe the political will is just different." UN-WATER STUDY

Funding for clean water

Safe drinking water and sanitation are crucial to human wellbeing. All too often, untreated sewage pollutes the environment and contaminates people's water supply. In spite of considerable progress in recent years, many people still lack access to essential services including safe water supply and sanitation. To improve matters, governments need funding.

By Sheila Mysorekar

Drinking water is not easily accessible to everyone around the globe. According to Water.org, a civil-society organisation, many women and girls in Indonesia, for example, "spend an average of six hours per day collecting water". Walking long distances, but often not getting enough water or only unclean water, they are exposed to health hazards. Women across Asia, Africa and Latin America share their fate.

In 2015, the WHO/UNICEF Joint Monitoring Programme (JMP) estimated that "660 million people don't have access to adequate drinking-water sources, and over 2.4 billion people worldwide don't have access to improved sanitation."

The 6th Sustainable Development Goal (SDG) focuses on clean water and sanitation. Many countries, however, lack funding for improving their water infrastructure. Typically, WASH (water, sanitation and hygiene) programmes are co-funded by various partners, including national governments, service providers, non-governmental organisations, international donor institutions and private households.

To some extent, households build their own WASH infrastructure. For building large-scale infrastructure, there are various sources of funding, including

tariffs and fees paid by users to ser-• vice providers,

- loans taken by public utilities,
- bonds sold by governments,
- taxes collected by governments,
- official development assistance (ODA) in the form of both grants and loans, and

donations from charitable donors. The report shows that the financing published a report with the title "Global analysis and assessment of sanitation and drinkingwater" (GLAAS) 2017. The document con-

75 countries and 25 international agencies. Five key findings are: National WASH budgets are increasing as countries strive to achieve the SDGs,

siders financing gaps. It includes data from

UN-Water

but discrepancies between global aspirations and national realities are evident.

recently

WASH requires more attention and funding. Many people are still unserved by utilities, and the maintenance of existing services needs to be ensured.

Statistics on WASH matters are improving, providing decision makers with more and better data.

ODA disbursements are increasing. but future funding is uncertain.

Though extending WASH services to vulnerable groups is considered to be a policy priority, implementation is lagging behind.

mix for WASH efforts varies widely from country to country. Some countries (Brazil, for instance) collect major contributions from households; others (including Kenya and Tajikistan) rely more on ODA. In some countries (Pakistan and Peru for example), the national budget contributes the largest share to WASH expenditure.

In 2015, 319 million people in sub-Saharan Africa lacked access to improved drinking-water sources. In spite of this, "aid commitments to the region have declined", the GLAAS report points out. In 2015, WASH related ODA committed to the region amounted to \$1.7 billion, which was more than any other world region received.

LINK

UN-Water Global analysis and assessment of sanitation and drinking-water (GLAAS) 2017: http://www.who.int/water_sanitation_health/ publications/glaas-report-2017/en/



REFUGEES

Today's displaced are tomorrow's refugees

Currently, there are 65.6 million refugees worldwide. But not all who have to run from their homes go abroad – many are displaced in their own country. In 2016, 31.1 million people became internally displaced by conflict, violence and disasters. This is the equivalent of one person every three seconds.

By Sheila Mysorekar

There are many reasons why people flee – including armed conflict, natural disasters and climate change. According to the Global Trends report of the UN Refugee Agency (UNHCR), the number of people affected has hit a record high: last year, 65.6 million people, or one person in 113, had to abandon their homes because of conflict and persecution. This is four times more than a decade earlier.

Filippo Grandi, the UN high commissioner for refugees, says: "By any measure, this is an unacceptable number." Grandi urges for "solidarity in resolving this crisis".

Civil wars in Syria and South Sudan, famine in Eastern Africa, persecution of minorities like in Myanmar or a water crisis as in the Chad region all lead to forced migration. By population, Syria still accounts for the biggest share of displaced people overall, with 12 million people (almost two thirds of the population) either displaced internally or having fled abroad. Colombians (7.7 million) and Afghans (4.7 million) remained the second and third biggest population, followed by Iraqis (4.2 million) and South Sudanese (the world's fastest growing displaced population with 3.3 million having fled their homes by the end of the year).

Children, who are particularly vulnerable, make up half of the world's refugees according to UN data. In some countries like South Sudan, 85 % of refugees and IDPs are women and children.

Among those who have fled, internally displaced persons (IDPs) are in a special situation. They did not cross a border to find



South Sudanese refugees in Palorinya refugee camp, Uganda.

safety. Unlike refugees, they are on the run, but not in a foreign country. The UNHCR states: "While they may have fled for similar reasons, IDPs stay within their own country and remain under the protection of its government, even if that government is the reason for their displacement. As a result, these people are among the most vulnerable in the world." In total, there are 40.3 million IDPs globally, as the UNHCR reports.

The Swiss-based Internal Displacement Monitoring Centre (iDMC) recently published the Global Report on Internal Displacement 2017. It demonstrates that there are currently "twice as many IDPs as refugees in the world". There is a direct "link between internal and cross-border displacement", the iDMC points out. "Six of the 10 countries that produced the most refugees in 2015 – Afghanistan, Colombia, the Democratic Republic of the Congo, South Sudan, Sudan and Syria – were also among the ten with the largest number of IDPs."

South Sudan is a typical case. In the course of 2016, due to heavy fighting in the southern region of the country, many people fled their homes. First they went to the nearest towns or UN-protected sites within South Sudan. As fighting continued, the same people fled again, this time across the border to Uganda. From July to end of 2016, a small place in northern Uganda, Bidibidi, became the largest refugee camp in the world. Bidibidi is full now, so another camp has been set up in Palorinya in northern Uganda. From January to May 2017, 153,000 South Sudanese refugees settled here – and more people are coming daily.

According to the iDMC, the "exact push and pull factors that explain how someone who is an IDP one day can become a refugee, an asylum seeker or an international migrant the next are still unclear." The South Sudan example shows that as soon as the situation calms down in their country of origin, people tend to cross the border again to go back home. But the iDMC report warns that "refugees returning to their countries of origin risk becoming internally displaced again if their return is premature, involuntary or unprepared, and if they return to conditions of insecurity and inadequate livelihoods." In 2016, many Afghan and Somali refugees returned home, only to be displaced once more.

LINKS

Internal Displacement Monitoring Centre: "Global Report on Internal Displacement 2017". http://www.internal-displacement.org/globalreport/grid2017/

UNHCR, 2017: Global trends: forced displacement.

http://www.unhcr.org/statistics/

unhcrstats/5943e8a34/global-trends-forceddisplacement-2016.html

Earning money with scorpion poison

Libya is encouraging young entrepreneurs to put unusual business ideas into practice and start small businesses. Awards serve as incentives. In the context of civil war, young people need hope and perspectives.

Out of hundreds of small-business projects proposals for Libya, the three best were announced at an event in Tunisia a few weeks ago. "This is what the European Union would like to see emerge in Libya: a new culture of business," said Bettina Mudscheidt, the EU's ambassador to Libya. She presented the awards to the winners. "These projects are really impressive," she said.

The competition was launched in March 2017 and managed by Expertise France, a French development agency on behalf of the EU and Libyan authorities. The objective is to "develop entrepreneurship in Libya," said Nessrin Ghaddah from Expertise France. More than 1,000 applications were handed in. They were made by people of different ages, both sexes and from various parts of the country. The ten best proposals were selected, and those who had submitted them, were invited to the event in Tunis.

The first prize went to Sinbad, a project designed to teach the basics of entrepreneurship and project management in a simple and interactive manner. "We believe in improving people's lives, and Sinbad is a tool to do just that," says Marwan Al-Abed from Tripoli, one of the three people behind the idea. The name "Sinbad" refers to the fictional sailor of Arab fairy tales. According to Al-Abed, he was an "Arab adventurer and a businessman of sorts, always willing to take a risk". Al-Abed and his two partners plan the business to become operational next year.

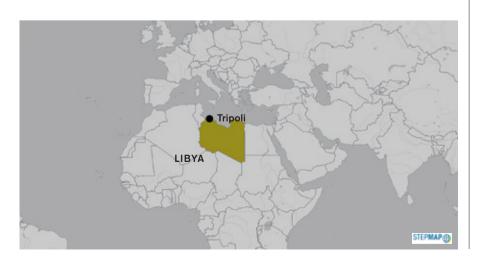
The second prize went to Asem Ali from Zawia with a proposal to set up an electricity-generating plant that uses recycled waste. "Accumulation of waste which is a prime reason for pollution," says Asem, adding that his scheme will "serve the country economically, socially and environmentally". Funding the project is still an issue, though.

The third-placed project proposes to extract the poison of living scorpions and sell it to serum and medicine manufacturers. Hussein Kafu from the Nafusa Mountain came up with the idea. "One day I received a call from a friend from the south. He had been stung by a scorpion and needed an antidote," Hussein remembers. "Then I found out that in Libya, we don't have such a serum at all." With his new project, Hussein would like to help supplying Libyans with the much-needed scorpions' serum.



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Election special

Ahead of the general elections in September in Germany, the D+C/E+Z editorial team asked the development-policy spokespersons of the parties represented in the Bundestag to elaborate their programmatic ideas for the next parliamentary term. CDU/CSU

Making a difference

By Sibylle Pfeiffer

None of the big challenges of the future can be solved without development policy. Whether the focus is world-population growth, rising energy demand for growing economies or anthropogenic climate change, development experience and instruments are needed more than ever. The longer we ignore those challenges or address them only superficially, the harder and more expensive they will be to tackle in the future.

The Sustainable Development Goals (SDGs) of the Agenda 2030 and the relevant Paris climate-protection targets provide guide rails for the development policy we pursue – guide rails that are, incidentally, institutionalised in Germany. The refugee crisis is the latest striking reminder of how much nation states are affected by developments in other countries. Owing to digitalisation and globalisation, human mobility has never been so high, even between continents. We thus not only have a responsibility to focus development policy more directly, especially on Africa; it is also in our own interest to do so. By 2050, the population of our continental neighbour is set to double to way over 2 billion. To be able to offer prospects for youth, Africa needs another 20 million new jobs a year. In Sub-Saharan Africa in particular, high birth rates and low economic growth – which generates little new employment – result in fragile states and migratory pressures. We need to break that vicious circle.

We laid the first major foundations for that during the present parliament. Largely thanks to the efforts of Chancellor Angela Merkel, the development budget is at a record level. The 0.7% target has been reached for the first time in accordance with OECD criteria. That is a notable

Financial services matter: Fidelis, the Ghanain retail bank, is a partner of DEG, the German development finance instituion.



achievement, especially considering that other countries are cutting back official development assistance (ODA).

But development is not just a matter of money; it also requires structures and strategies. Without partner governments that work for the benefit of the country and not for personal gain, no development policy can be successful. Governance remains a crucial challenge. Hence the intense efforts made by Finance Minister Wolfgang Schäuble within the G20 to tackle financing issues and secure better conditions for investment. But a good environment and political will in countries themselves cannot take the place of development policy. When choosing partners, we need to pay more attention than at present to their willingness to accept accountability. Our key concern is to enhance our partners' regulatory capacity.

Development Minister Gerd Müller's Marshall Plan with Africa offers partner countries and the private sector a chance to work together on a better future by promoting the large-scale joint mobilisation of resources. We want to help our partners to generate more revenue and strengthen local investment conditions so that jobs can be created for the local community. Without private investment and the transfer of knowhow, many African countries will not be able to meet the challenges ahead. And the consequences of that would be disastrous.

Efforts in the coming parliamentary term will therefore focus on filling those initiatives with life. In concrete terms, that means concentrating more on key countries and key sectors where our development policy commitment can make a difference. We need programmes that have an impact, promote common interests and involve other actors such as the private sector - altruism, dissociation and the kind of watering-can policy that has been practised for far too long are doomed to failure. Our professional new development policy is the only way to achieve the common goal of creating economically, environmentally and socially sustainable income prospects in Africa within our planetary boundaries.



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SPD

Focus on poverty reduction

By Stefan Rebmann

The waves of refugees and migrants produced by current crises confirm the need to pursue the overarching objective of our global structural development policy: a life in dignity for every person on the planet. Among other things, this means realising the Agenda 2030. Additionally, we want to implement the National Action Plan on Business and Human Rights in a much more ambitious way than it has been possible in the coalition government with the Christian Democratic Union. The EU's economic partnership agreements need to be more development-friendly, and compliance with social, environmental and human-rights standards must be compulsory. Our goal is to move from free trade to fair trade.

The Federal Government's current engagement in Africa focuses far too much on business investment. Africa is three times the size of Europe and has a population of 1.2 billion. Its problems cannot be addressed by one single plan. A needs-based focus and regional differentiation need to find their way into development politics again. Fragile states and least developed countries still urgently need government funding. We will also reemphasise the need for poverty reduction instead of promoting investment opportunities for (German) companies in Africa.

We have only 13 years to implement the 17 goals of the Agenda 2030. That is very little time. The Chancellery seeks to implement the Agenda merely by updating the National Sustainability Strategy – cherrypicking without even defining the status quo and targets. More needs to be done. However, it is not the sole responsibility of the Federal Ministry for Economic Cooperation and Development (BMZ) to implement the Agenda 2030. Instead, its implementation needs to be steadily managed right across the government.

Whether they work on small-scale farms or in manufacturing sectors, women account for the lion's share of economic output in partner countries. Utmost importance needs to be attached to the promotion of women. Education – the cornerstone of development – needs to be focused on women and girls, including support for reproductive and sexual self-determination.

In view of global climate change and rising energy demand driven by population growth and other factors, we support the systematic promotion of renewable energies and the creation of decentralised, democratically controlled supply systems. Urbanisation is a major issue here, since 70% of global carbon emissions are generated in urban areas. Thus, we intend to step up support for the fast-growing cities of the global south through twinning agreements. We also aim to provide special support for poorer countries at risk of climate change.

Time and again, we observe that German and European development programmes in countries of the global south conflict with or at best blindly duplicate each other. EU programmes, national government programmes and the diverse activities of private organisations and foundations need to be better coordinated. Coherence is a well-worn word but we will not shy away from tackling these difficult issues.

The special initiatives of the BMZ have given rise to a considerable amount of irritation and confusion in the field of development cooperation. Projects receive only annual financial commitments. This is not how sustainable development cooperation can be accomplished. The BMZ needs to stop doing things for the sake of doing things and start being a reliable partner for developing countries and implementing organisations.

No one doubts that the BMZ possesses extensive expertise but at present that expertise is being stifled. The leadership has completely lost touch with its own staff. Plans are no longer drawn up internally, and on foreign trips knowledgeable staff members are replaced by journalists and photographers. But without internal expertise, the professional competence of a leadership declines. It is the team that wins, not the top manager.



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Women account for the lion's share of economic output in developing countries; the SPD wants to step up support for them. Garment workers in Bangladesh.



THE LEFT PARTY

Development policy needs to be active peace policy

By Heike Hänsel



The Left Party wants to promote the creation of value chains in the countries of the global south so that people can make a living from more than just the sale of agricultural products. A quinoa farmer in Bolivia.

Growing social injustice worldwide is the biggest obstacle to development. In the space of a few years, eight individuals have amassed more wealth than the poorer half of the world's population altogether. The relationships of colonial dependence between north and south have developed even more due to the neoliberal policies of the last three decades, causing hunger and suffering for nearly a billion people. Twice as much capital a year flows from Africa to the industrialised world in the form of loan repayments, interest payments, corporate profits and tax avoidance than flows in the other direction to Africa in the form of official development assistance and direct investment.

Social security now exists for only a tiny minority as a result of the deadly freetrade policy, deregulation and privatisation enacted in many countries of the south. Whole regions have been destabilised by the unfair global economic system. As a result, for a growing number of people the only remaining option is to flee or migrate in despair.

The Left Party thus fights for a fundamental change of policy for social justice as well as a reassessment of our relationships with the global south. No amount of well-intentioned project work can sustainably promote development opportunities without a framework of peaceful foreign policy and fair world trade. We want to strengthen south-south relationships and regional markets, support raw materials processing and the creation of value chains within the countries of the south and work for fair trade structures that protect local producers from price dumping and predatory competition. The UN Sustainable Development Goals (SDGs) can only be implemented by solidarity-based cooperation that addresses the structural problems created by the capitalist world economic order.

The Left Party will continue to campaign against the militarisation of German foreign policy and the growing misuse of development cooperation to further the economic, security and migration policy interests of donor countries and international companies. Development policy needs to be active peace policy. We reject the concept of civilian-military cooperation and NATO's two percent GDP target for spending on the armed forces and military missions. Instead, the instruments of civil conflict prevention and management need to be massively upgraded – for instance by the creation of an additional European civil peace service.

We want to see development and climate financing come from the public purse and are against all instruments for using public development funding to "leverage" private capital, as the G20 "Compacts with Africa" are designed to do. That makes countries of the south massively dependent on financial markets and further intensifies inequality. In our multi-stage model, the emphasis is on:

• a fair and effective international taxation system, prevention of tax evasion and avoidance, and the closure of tax havens,

• increased development funding and financial transfers to countries particularly affected by climate change and

• the creation of a UN compensation fund for the consequences of climate change and colonialism. We see the transition toward sustainable energy as a global public good and want to see a knowledge and technology transfer take place as an act of solidarity.

We want to strengthen self-determined development and food sovereignty in the countries of the south. Land grabbing, food speculation and agro-fuel imports need to be prohibited. Instead, we promote a policy of agro-ecological farming, support for small-scale farmers, adapted technologies and a fair distribution of land and resources - not the intensive farming cosseted by Federal Minister Gerd Müller. Protection for people must take priority over profit: German and European companies need to be obliged to maintain social and environmental standards and observe due diligence along the entire supply chain. To that end, Germany needs to support the UN "Treaty process" in the Human Rights Council aimed at enshrining corporate responsibility in international law.



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Venturing more sustainability

By Uwe Kekeritz

After Brexit, Trump and Co., there must be no more setbacks in the fight for a fairer world. The key lies in closer multilateral cooperation on trade, taxation and agriculture as well as in the fight against climate change. The Agenda 2030 and the Paris climate agreement still offer the chance of making a breakthrough on climate-change mitigation and global justice.

Despite the progress made on reducing poverty, the UN reports that there are still around 800 million people living in extreme poverty or suffering hunger. Nearly half of the world's active population works under inhumane conditions. More than rise to overexploitation of natural resources, poverty and bleak futures elsewhere.

So we need to put our own house in order first. And that means that the Federal Government finally needs to deliver on the nearly 50-year-old pledge to earmark 0.7 % of gross national income for development on a long-term basis – without resorting to the questionable practices of including refugee costs and double-counting climate funds. Above all, we need to change global structures so countries of the global South get a fair chance to develop.

First up, we need a fair trade and investment policy and an end to exploitation in global supply chains. The European Union's economic partnership agreements rules must be established to put paid to the tax avoidance tactics used by companies.

We need a fundamental change with regard to our agriculture. Intensive farming must no longer be subsidised. European overproduction is flooding markets in the countries of the global South and making poverty there worse. At the same time, the system mars the prospects of farms in Germany. So, instead of subsidising factory farming, we need to support small-scale agriculture.

Last but not least, the impacts of climate change are now more noticeable than ever – especially for the poorest in the global South. Climate protection and biodiversity need to figure prominently in international cooperation. That will require a determined shift in emphasis towards renewable sources of energy – both in public and public-private investment. Sustainable development can only be assured if we make economical use of resources and take effective action to mitigate climate change.



For the Greens, the fight against climate change is fundamental because the poorest in the developing world suffer most. Farmers in Rwanda.

65 million people have fled from poverty, armed conflict or the effects of the climate crisis. Moreover, the gap between rich and poor keeps widening.

The scale of the challenges shows that Germany needs to press forward with solutions to those issues. At present, however, Germany is less a problem-solver than a part of the problem itself. It is one of the biggest per capita consumers of meat and textiles, a leader in coal-based power generation and the country with the greatest social inequality in the eurozone. And those are not purely national problems. German exports, economic growth and consumption give with Africa (EPAs) need to be scrapped and renegotiated to promote sustainable development. We also need statutory humanrights due diligence obligations for companies, full transparency along supply chains and sanctions for human-rights violations.

The global architecture of taxation and financial markets must serve the common good. Developing countries lose far more money as a result of tax avoidance than they receive in official development assistance (ODA). Rules are thus needed to prevent capital illegally or illegitimately flowing north from the global South. Tax loopholes have to be closed, and binding international



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LINK

Kekeritz, U. et al., 2017: Grün. Global. Gerecht. Eckpunkte einer nachhaltigen Entwicklungspolitik (in German only). http://www.uwe-kekeritz.de/wp-content/ uploads/2017/06/Gr%C3%BCn.-Global.-Gerecht._A5-Corporate-Design.pdf FINANCING

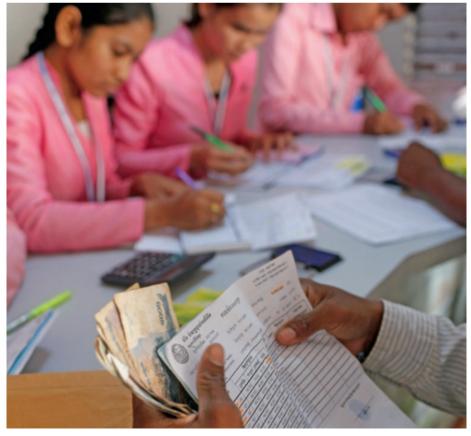
Is microcredit a debt trap?

According to scientifically based impact studies, microcredit has hardly any positive effect on borrowers' income or consumption. One reason for this is the risk of over-indebtedness. However, as a new study shows, micro-borrowers with access to formal microfinance institutions are less likely to get too deeply into debt.

By Oliver Schmidt

The act of taking out a loan implies an optimistic view of the future. Borrowers believe their future earnings will be sufficient to pay back the principal and the interest on the loan. Behavioural economics shows that people tend to be over-optimistic. If that optimism is misplaced, the borrower will either default on the loan or face the need to sell assets or cut consumption. Researchers have found that micro-borrowers often make sacrifices in their daily lives to repay loans on time. Cutting down on cigarettes or sweetened tea may not seem unreasonable but providing smaller meals for school-age children certainly does.

Default has been a defining factor in microfinance crises – for example in Bolivia in the late 1990s and in Bosnia-Herzegovina and India at the end of the 2000s – and is currently being watched with concern in Mexico. Default means that microfinance institutions (MFIs) loans have gone bad – no further repayments are being made. If this happens on a large scale, default can destroy an entire system. The delivery of microcredit as a group loan – a practice inspired worldwide by the Grameen Bank model – incen-



Microcredit can be a blessing and a curse: microfinance institution in Cambodia.

tivises both borrower group members and MFI loan officers to make ever new loans. It is thus a particularly susceptible system.

But default should not be equated with over-indebtedness. In the crises mentioned above, for instance, microcredit group members did not only refuse to make repayments because they were over-indebted but also because the prospects of new loans dwindled as defaulting borrowers caused more and more liquidity problems for the MFI.

Over-indebtedness was measured indirectly in the past, especially in qualitative studies. Roodman (2012) provides an excellent overview of the literature. There are a number of new studies addressing the issue of over-indebtedness.

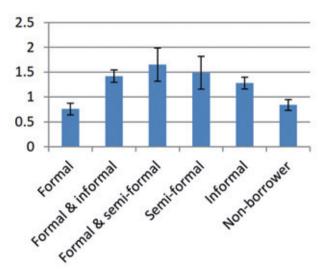
DEVASTATING CYCLE OF RESCHEDULING

In one ethnographic study, Mader (2015) shows how Vietnamese and Indian households are burdened by over-indebtedness. In other studies, borrowers report "being unhappier than people with no loans" (Mader 2013). Those borrowers are mostly clients of the big Indian microfinance providers using the group-loan model. Mader argues that those providers push their clients into a devastating cycle of rescheduling, in which one loan is used to repay another.

Rescheduling is indeed common practice among micro-borrowers. Mader is one of a number of authors documenting the fact that loans are frequently used to pay off other loans. That said, the modern microfinance movement also claims that its group loans end dependence on loan sharks. In such cases, rescheduling goes hand in hand with lower interest payments. However, figures from India cast doubt on the formal MFI claim that loan sharks are being systematically dislodged. Evidence suggests that loan-shark business flourishes alongside the MFIs.

Schicks (2013) developed an innovative approach that measures over-indebtedness in terms of sacrifices. The author makes a distinction between structural sacrifices with a long-term impact – such as the





The index chart is based on Schicks' method of measurement: higher values indicate greater distress, meaning more sacrifices. (KfW, 2015, p.4)

sale of assets or rescheduling of debts – and non-structural but unacceptable sacrifices such as less food, a poorer diet and lower expenditures on education and preventive health care. Households making more than three undue sacrifices during the evaluation period were classed as over-indebted.

In a quantitative household survey of more than 500 microcredit clients in the Ghanaian capital of Accra, nearly a third of respondents were classed as over-indebted (Schicks 2013). KfW Entwicklungsbank, which refinances many MFIs, also initiated a study on over-indebtedness in Uganda. While Schicks focused exclusively on active microcredit clients of formal MF providers, the KfW study covered borrowers involved with various MFIs. This allowed to relate the over-indebtedness measured to the sources of loans.

The results revealed that households with only formal loans actually made fewer sacrifices than those who had taken out no loans at all. Households with loans from various sources – not just formal but also informal or semi-formal MFIs – made significantly more sacrifices. The most sacrifices were made by households with loans from semi-formal sources.

SACRIFICE THE SAME AS OVER-INDEBTEDNESS?

Not every sacrifice is a sign of over-indebtedness. On the contrary, it is to be expected that borrowers will make sacrifices now and again if their income fluctuates and a loan payment is due. As the chart (above) shows, even households with no loans occasionally make sacrifices termed distress by KfW (2015). Nevertheless, sacrifices are a plausible indicator of over-indebtedness. Households with loans from more than one source make more sacrifices on average than those with loans from only one source. Semi-formal and informal loan sources may thus cause more distress than formal ones because formal providers in Uganda report to the Credit Reference Bureau. This means that the size of the loan is adjusted to suit the borrower's ability to pay, which is not the case with semi-formal and informal providers. It is intuitively logical that households which take out a poorly vetted loan in addition to a carefully calculated formal one experience corresponding distress.

Organisations like KfW and GIZ, which work on the "institutional setting" of micro-

finance markets, can consider their work justified by the latest findings about over-indebtedness. Institutional setting is the interaction between regulation and organisation. If MFIs grow fast and have little incentive to conduct a robust assessment of the impacts of their lending activities or to extend their product range beyond microcredit and instead adopt a casual sense of accountability, over-indebtedness is virtually inevitable. Where the impacts are accurately assessed and appropriate regulators – such as credit reference bureaus – are present, access to microcredit makes a solid contribution to human development.

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LINK

Extended version of this article in German, with a detailed description of the various methods for measuring and studying overindebtedness: http://www.researchgate.net/ publication/315691028_Mikrofinanz_ohne_Hype

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Supporting SMEs in Africa

Micro, small and medium-sized enterprises (SMEs) need access to adequate funding. Their relevance for sustained growth and increased employment is beyond question. This article discusses whether and to what extent crowdfunding can serve to finance SMEs in Africa.

By Rolf Drescher

An enabling environment for new and existing SMEs is essential for sustainable, inclusive growth and the creation of enough new jobs to offer a secure future to the continent's young and fast growing population. Small and medium-sized enterprises account for around 80% of jobs in Africa. Even though the obstacles to growth differ from country to country, there is broad agreement that the lack of access to financial services – especially loans and equity capital – is a fundamental problem across Africa.

Available statistics show that growth and jobs are generated where companies' access to credit improves. In the sustainable development goals 8 and 9 (decent work and economic growth / industry, innovation and infrastructure), the UN 2030 Agenda acknowledges the links between better SME financing opportunities, job creation, full employment and decent work. Innovative approaches in policy and finance are needed beyond the conventional finance industry. The potential of alternative financing mechanisms such as crowdfunding (see box, p. 20) must be utilised.

The rapid growth of the crowdfunding sector is a well-documented global trend. In 2015, the total volume of crowdfunding amounted to \$ 34.4 billion. That was more than twice the sum registered in 2014 (\$ 16.2 billion) and five times as much as in 2013 (\$ 6.1 billion). North America is the biggest crowdfunding market, followed by Asia and Europe.

The figures for Africa vary considerably and are rather unreliable. What is clear, however, is that Africa is still in the "beta" development phase. Crowdfunding has not yet become an established financing mechanism. In 2015, African crowdfunding was estimated to have amounted to \$127 million, of which \$ 94.7 million was mobilised through international platforms and only \$32.3 million raised in Africa. The estimate for 2016 was \$190 million. According to other sources, the crowdfunding volume stood at just \$83.2 million in 2015, of which some \$75 million was raised by campaigns on international platforms. It is interesting to note that crowdfunding for African projects follows the established pattern of development cooperation with most of the money coming from the global North via international crowdfunding platforms.

In a study of 2013, the World Bank estimated that the crowdfunding potential for Africa might rise to \$ 2.5 billion by 2025. Patrick Schofield, the founder of the South African crowdfunding platform Thundafund, is similarly confident: "Crowdfunding has been a phenomenal driving force of creative development in the US and Europe. We believe that it can become an equally powerful force in Africa."

Are we facing hype or realistic assumptions? The G20's Global Partnership for Financial Inclusion emphasises the potential of crowdfunding. At the same time, it warns that there is still not enough evidence of crowdfunding actually benefiting those who lack access to credit.

According to the World Bank study, crowdfunding offers developing countries the chance to leapfrog conventional capital markets and financial regulations. Crowdfunding can complement or even substi-



Innovative financing options like crowdfunding can help secure a future for small and medium-sized enterprises: market stalls in Lusaka, Zambia.

tute banks and other financial institutions. Scholars from the Frankfurt School of Finance & Management disagree, however. They contend that banking is always the first phase of financial-sector development, so crowdfunding can only be the next stage, building on a highly-developed financial sector. In the Frankfurt School's view, the potential for crowdfunding is thus rather limited in developing countries. Crowdfunding is not considered a fast track to financial-market development.

In the USA, Europe and Asia, crowdfunding has become firmly established as a ernment had enacted specific crowdfunding legislation.

Based on an analysis of the crowdfunding sector in East Africa, the Cambridge Centre for Alternative Finance concludes that crowdfunding regulation would actually be premature. Its experts argue that, to promote market development, the first step should be to conduct a systematic survey of the experiences of existing crowdfunding platforms. On such a base, a regional regulatory approach could then be drafted in broad-based dialogue of government authorities and industry associations.



For small enterprises, it is very difficult to get loans from banks: finance company in Burkina Faso.

complementary option in an environment of well-functioning, clearly regulated financial markets. Special rules have been introduced, so crowdfunding does not have to meet the same strict regulatory requirements as other types of financing. However, investors do enjoy reasonable regulatory protection. Notable examples include the Jumpstart Our Business Startups (JOBS) Act in the USA or the Small Investor Protection Act (Kleinanlegerschutzgesetz) in Germany.

The business environment in Africa is totally different. That is not only so in regard to market structures and the functional capacity of the financial sector but also in terms of political and legal requirements. According to the UN, only three African countries had adopted a crowdfunding policy last year, and, so far, no African govThe World Bank reckons that SME financing requirements of \$ 140 to 170 billion are currently not met by the conventional financial sector in sub-Saharan Africa. Such capital shortages obviously cannot be equated with the potential demand for crowdfunded loans and investments. Whether and in what form crowdfunding can make a difference depends on the project concerned and the type and level of financing required. In regard to the supply side, however, it is virtually impossible to estimate investors' willingness to put up financial resources for crowdfunding.

There are two ways in which crowdfunding can be harnessed to finance SMEs in Africa. One is to develop national African crowdfunding platforms, the other is to develop and use international crowdfunding platforms (see box, p. 21). At present, there are only a small number of Africa-based platforms, and they have a very small aggregate turnover. But their potential is obvious: they can create investment opportunities for broad sections of the people, including the growing African middle class, thus mobilising domestic resources. Moreover, they can offer equity investments and localcurrency loans, allowing SME's to avoid exchange-rate risks.

The approach is in line with the Addis Ababa Action Agenda (AAAA) which the UN adopted at the Financing for Development conference in 2015. The AAAA does not explicitly mention crowdfunding, but it emphasises the needs to mobilise more domestic resources and improve SME access to credit by developing innovative finance mechanisms.

It is hard to predict how crowdfunding will develop in Africa. Innovations in the financial sector take time. New technologies often face resistance. An African crowdfunding market cannot be developed by "cutting and pasting" from the European, Asian or North American models. Crowdfunding must be adapted to the local business environment and Africanised. It will not be a panacea to solve all financing problems. But it is likely to have a sufficiently strong potential to establish itself in the medium to long term as a useful instrument and major cornerstone of SME finance.



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essay, he is expressing his personal views and not elaborating government policy. rolf.drescher@t-online.de

LINKS

German crowdfunding information portal: http://www.crowdfunding.de. African crowdfunding platforms: http://www. changa.co.de; http://www.app.pesazetu.

co; http://www.thundafund.com; http://www. startme.co.za.

International crowdfunding platforms financing projects in Africa: http://www.bettervest.com/ de; http://www.crowd4climate.org; http://www. lendahand.com/en-de; http://www.bluebees. fr/en; http://www.jointrine.com; http://www. emergingcrowd.com; http://www.kiva.org

What is crowdfunding?

Crowdfunding is basically a financing mechanism whereby a large number of backers finance a specific project. In this sense, crowdfunding is not new. There are long-standing traditions of community project financing in Africa, after all. The Harambee events that raise money for social projects in Kenya are one example, the informal sou-sou savings clubs found across West Africa are another.

Typical of nowadays crowdfunding is that the projects for which funding is sought are advertised on social media and the internet with potentially global reach. Moreover, the money is raised by specialised websites. The World Bank has therefore described crowdfunding as an "online extension" of traditional forms of community finance. The range of applications has grown considerably, however. Crowdfunding is used to mobilise money for community, social, charitable and creative purposes, and SMEs are increasingly using crowdfunding as an alternative to bank loans. Start-ups in particular tend to rely on crowdfunding.

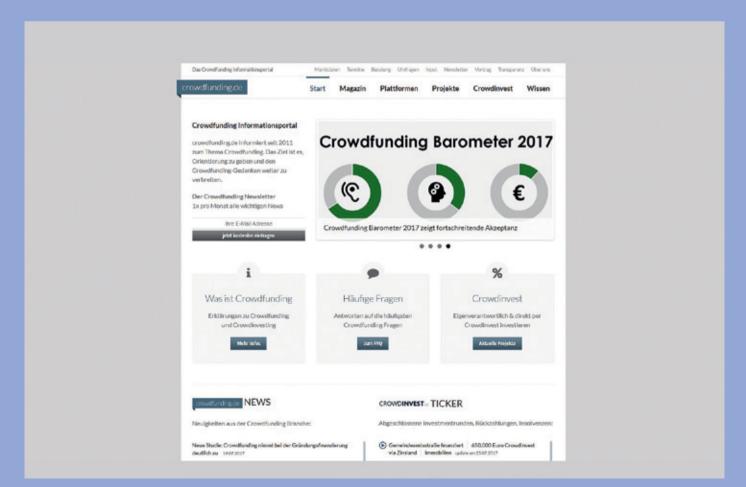
Four basic types of crowdfunding are defined by what backers receive in return:

• Donation-based crowdfunding: backers support a project financially for civic or philanthropic reasons with no expectations of a reward. This is basically fundraising for nonprofit organisations.

• Rewards-based crowdfunding: backers receive a non-monetary reward for their financial support. The consideration typically is part of project output and is graded according to the level of financial contribution. For SME financing, rewards-based crowdfunding can be an interesting presale instrument: a fixed sum is paid for the development and manufacture of the product, which the backer then receives.

• Lending-based crowdfunding: investors make their financial contribution in the form of a loan. On maturity, they are paid back the principal plus interest at an agreed rate. In its functioning, crowd lending resembles conventional bank lending.

• Equity-based crowdfunding: crowd investors provide equity-funding for an enterprise; what they receive in return depends on the nature of their investment. A basic distinction is made between two types: equity investors either acquire shares in the enterprise, or they provide equity-like loans that bear interest ("mezzanine capital").



Development of African crowdfunding platforms

When it comes to developing national African crowdfunding platforms, it is essential not to take the second step before the first. "Africanise crowdfunding", "think small" and "cooperate" can serve as key guidelines for the development of an African crowdfunding market.

Africanise crowdfunding means setting up local crowdfunding platforms with adapted technology for local investment. No bank account? Not a problem! Many African countries lack conventional money transfer infrastructure; bank accounts and credit cards still tend to be the exception, not the rule. To permit widespread participation in crowdfunding in such circumstances, mobile phone-based money transfer services (like the Kenyan financial service M-Pesa) are needed. The Indian crowdfunding platform Ketto (https://www.ketto.org) works with a courier service that collects cash payments.

Think small means taking one step at a time. In North America, Asia and Europe, the crowdfunding market has fast become very differentiated. It has generated very complex high-volume financing options that moved a long way away beyond the original models. This applies in particular to the lending-based crowdfunding, equity-based crowdfunding and the fast-growing area of real-estate crowdfunding.

Copying these approaches is not the way to move ahead in Africa, not least because

of the lack of an adequate institutional and legal environment. First and foremost, SME financing requires national crowdfunding platforms with traditional financing options (donation-, rewards- and lending-based). Minimum contributions must be small and payable in local currency.

Special consideration also needs to be given to SMEs that are too big for microcredit and too small for conventional bank loans. The Kenyan crowdfunding platform M-Changa (http://changa.co.ke) offers numerous examples:

• financing the manufacture of an "Afro sneaker" (fundraising goal KES 350,000 – or about € 3,000), with backers receiving sneakers at discount prices;

• financing solar-powered systems to increase the output of a fruit-processing business

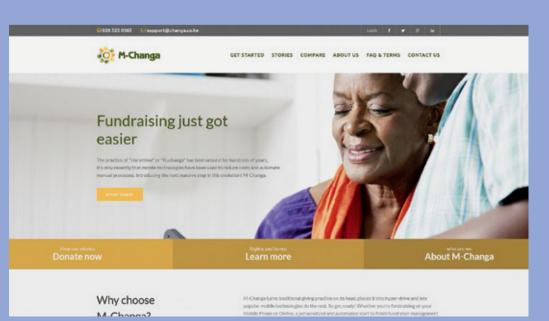
(fundraising goal KES 350,000) with backers getting jars of jam from the product line;

• financing the manufacture of clean-energy cooking stoves (fundraising goal KES 1.5 million), with backers receiving cooking stoves at a discount price.

Other interesting African platforms are PezaZetu (Kenya), Thundafund and StartMe (both South Africa).

Cooperate means working with partners at all levels to develop the market. There are many ways in which development cooperation can help to establish crowdfunding as an SME financing instrument. To build confidence and reduce risks, development agencies can support SME planning, invest in an SME or help to implement a project. They can participate in the financing of a project by topping up the amount raised by crowdfunding. Like structured financing, a crowdfunded loan or investment can be divided into different risk tranches, with the international agency taking the highest-risk tranche to minimise the risk and create an investment incentive for other partners. Moreover, they can offer "first loss protection" by assuming a certain percentage of the loss in the event of default. However, care must be taken to ensure that market mechanisms and the project's financial viability rating reflected by the crowd's willingness to invest are not undermined by the involvement of an international agency.

International platforms also have considerable potential for financing African SMEs. Some offer more complex financial products and equity investments. A number of platforms specifically address the African diaspora, aware of its financing potential and willingness to invest in Africa. Interesting examples - with widely differing business models - include Bettervest (Germany). Crowd4Climate (Austria), Lendahand (Netherlands), Blue Bees (France), Trine / Emergingcrowd (both UK) and Kiva (USA).



Why paramedics and midwives matter

Gonoshasthaya Kendra (GK), a non-governmental health-service provider in Bangladesh, has proven that it is possible to reduce maternal mortality substantially. The main issue is to ensure that all pregnant women get competent assistance, though not necessarily from a university-trained physician.

By Manzur Kadir Ahmed

As GK's coordinator and chief executive officer, I am confident that we will achieve the global Sustainable Development Goal of fewer than 70 maternal deaths per 100,000 live births in the near future, well before the 2030 deadline. Our organisation serves some 1.2 million people throughout Bangladesh. They are not a representative cross-section of the nation, of course, but our experience is relevant, nonetheless. We work in rural as well as urban areas, paying particular attention to poor and disadvantaged communities.

Basically, GK is something like the prototype of the solidarity-based national health service least developed countries like Bangladesh need (see Rezaul Hoque in D+C/E+Z e-Paper 2017/05, p.28/D+C/E+Z print edition 2017/05–06, p.20). We charge patients from different social strata different rates, ensuring that all families who sign up get reliable and affordable health



Pre-natal care at the village level: GK-paramedic checking a pregnant woman's urin probe.

care. We reach out to our nation's poorest communities.

Paramedics are the backbone of our system. We run up-to-date vocational training to ensure they are properly skilled. The plain truth is that Bangladesh simply does not have enough university-trained physicians to serve everyone. We believe that health coverage is a universal human right, so everyone must be covered (see interview with GK founder Zafrullah Chowdhury in D+C/E+Z 2012/03, p. 126). Moreover, GK has always considered reproductive health particularly important, and we have a history of promoting family planning and contraceptives. Our government has copied many of our measures.

Most of our paramedics are young women with eight to 12 years of school education. GK runs more than 40 health centres that provide services to more than 630 villages. The health centres are supported by six referral hospitals.

Every member family of GK is visited at least once per month by a paramedic. If needed, the health workers come more frequently. Among other things, they provide reproductive and health care and familyplanning services:

• They register pregnant women and provide ante-natal care. For example, they measure the women's weight, height and blood pressure. They also check for oedema, jaundice, anaemia and diabetes. They examine eyes, ears and teeth as well as foetal movements and foetal heart sounds.

• They distribute iron and calcium tablets and immunise pregnant women against tetanus. To reduce child mortality, they immunise infants against diphtheria, whooping cough, tetanus, polio, tuberculosis and measles.

• They identify high-risk mothers and refer them to medical professionals. They get special attention. If needed, babies are delivered by Caesarean section in the referral hospitals. • The paramedics advise families on healthy and balanced diets.

• They discuss the possible causes of maternal death as well as preventive measures with families and the local community.

• They file detailed reports of all cases to the head office, so GK has compiled extensive and long-term statistics over the decades.

GK officers regularly monitor the paramedics' work. Statistical data and field reports are checked for inconsistencies, which helps to ensure high-quality services. Antenatal and postnatal care are very important. Mothers, after all, have a vital role to play in their families and in society in general.

GK cooperates with traditional birth attendants (TBAs), ensuring that the women's skills are up to date. It is essential that every birth is attended by a competent person and that high-risk deliveries take place in hospitals. On the other hand, it is plainly unaffordable to deliver all babies in hospitals in a least developed country like Bangladesh. Well trained paramedics and midwives are up to the task.

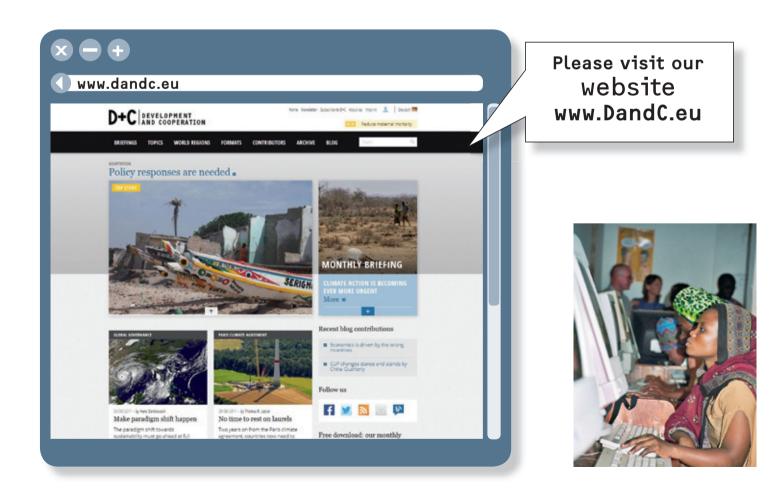
We believe in community-based action and involve local people in health matters. Every infant and maternal death is discussed in the community to draw lessons. The idea is to improve health services as well as household and community action. More generally speaking, health education in villages matters very much.

In recent decades, Bangladesh has made good, but insufficient progress on reducing maternal mortality. The country cut the number of deaths per live births by almost two thirds from 1990 to 2015, but the Millennium Development Goal (MDG) was to reduce it by 75%. According to government data, the figure for 2015 was 181 maternal deaths per 100,000 births. The MDG mark was 143 per 100,000. Among the GK clientele, the ratio was 141 per 100,000 (to be precise: we recorded 18 deaths per 12,731 live births). Bangladesh also missed the subtarget of having 50% of births attended by skilled staff in 2015. The share rose from five percent in 1990 to 40% in 2015. Once more, this progress was good – but not good enough, and not as good as the services we provide. Our member families are taken care of systematically, after all. In any case, the trends show that the MDGs were within reach and should be achieved soon. The SDG on maternal mortality is more ambitious of course. In our experience, it is achievable, nonetheless. GK will certainly achieve, and hopefully our country will too.



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Climate action urgently needed

Mitigating climate change and adapting to the phenomenon are the most urgent challenges humanity faces. Unless we rise to them adequately, all other problems will only get worse. Ahead of the climate summit in Bonn in November, we asked contributors to assess matters.

Addressing our climate reality

In 2015 the world united in Paris with a powerful call for climate action. The adoption of the Paris agreement brought a fresh wave of political momentum, spurred by its rapid entry into force last year. These diplomatic successes in Paris, however, should not blind us to the magnitude of the challenge still ahead of us.

By Gebru Jember Endalew

2016 was the warmest year on record. This year, severe droughts have continued to plague my home country of Ethiopia and other countries in the region. Thousands of pastoralists have lost precious livestock and been displaced.

Across the sea in Bangladesh, freshwater is increasingly scarce as saltwater intrudes further inland, exacerbating the plight of the 2.5 million already suffering from drinking water shortages (see contribution of Feisal Rahman in D+C/ E+Z e-Paper 2017/4, p. 22, and D+C/E+Z print edition 20017/05-06, p. 30). Extreme weather events continue to batter communities, with Vanuatu hit earlier this year by the strongest May cyclone on record in the southern hemisphere. This handful of stories represent a narrative becoming increasingly common across the world. They are an alarm bell, indicating the kind of events to come if we do not avert our current trajectory. The least developed countries (LDCs) are particularly vulnerable to these impacts, despite having contributed a negligible amount to the greenhouse-gas emissions now trapped in the earth's atmosphere.

Global temperatures have already risen a staggering 1.1°C above preindustrial levels, according to a recent report by the World Meteorological Association. Projections indicate that on our current trajectory we would reach 2.6°C to 4.8°C of warming by the end of the century. From there the graphs only continue to climb.

These processes of warming are not even. In Africa, for example, warming occurs at 1.5 times the global mean according to the Intergovernmental Panel on Climate Change (IPCC). A two degree rise globally would bring temperatures to three degrees above preindustrial levels in Africa, dragging us further down the path of extreme drought and lost livelihoods. As a meteorologist, I gained an appreciation of the devastating impacts such temperature increases would cause. The British climate scholar Kevin Anderson has stated that an increase of four degrees is "incompatible with an organised global community, is likely to be beyond 'adaptation', is devastating to the majority of ecosystems and has a high probability of not being stable".

As a father, this is not the future I want for my children. As a human being, this is not the future I want for my country or the global community.

Yet this is currently the path we are on. Despite the international consensus achieved in Paris, commitments by countries to date do not provide a roadmap to a safe future. It is projected that full implementation of current pledges would still put the world on track for 3.5° degrees of warming by the end of the century. These pledges are insufficient to achieve the international community's goal spelled out in the Paris agreement to "pursue efforts to limit the temperature increase to 1.5°C above preindustrial levels".

UNIVERSAL CLIMATE ACTION

To secure a safe planet for present and future generations it is therefore vital that we move swiftly to translate the words of the agreement into the tangible actions that will protect our communities.

Due to global warming, thousands of pastoralists have lost livestock and been displaced in Ethiopia.



The LDCs are doing their part and have submitted ambitious plans under the Paris agreement, with many pledging to do more than their fair share of the global effort required to tackle climate change. As we are doing our part individually, we are also doing it collectively. The LDC Renewable Energy and Energy Efficiency Initiative for Sustainable Development, known as LDC REEEI, exemplifies this commitment to taking concrete climate action. The initiative is set to bring sustainable, clean energy to millions of energy-starved people in LDCs, facilitating improved energy access, the creation of jobs and contributing to the achievement of the Sustainable Development Goals. LDC REEEI is one of a number of initiatives that will foster access to energy across LDCs and other developing states under the auspices of the Global Partnership on Renewable Energy and Energy Efficiency.

Yet, the LDCs still represent merely a slim proportion of global emissions. The world can only be steered towards a safe future if every country acts consistently with their responsibility for causing climate change and their capacity to respond. The Paris agreement reflects this reality, recognising that an effective response to climate change is a holistic one that serves the interests of all the world's people. In addition to temperature and mitigation objectives, the international community agreed in Paris to a global goal of "enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development." A standalone article on loss and damage was also agreed, reflecting the harsh reality that even with swift action, the emissions already locked into the earth's atmosphere will continue to bring impacts that communities in LDCs and across the world are unable to cope with or adapt to.

The Paris agreement also recognises that for an effective global response to climate change all countries need the tools to take action. LDCs and other developing countries often lack the capacity to develop the infrastructure that will enable them to reduce emissions and safeguard communities from climate impacts. The agreement, therefore, reaffirms obligations on developed countries to provide financial resources, technologies and capacity-building support to developing countries.

However, there is a wide and persistent gap between the resources needed and those provided. Preliminary estimates indicate that an excess of \$ 4 trillion is required for developing countries to carry out the plans they have submitted under the Paris agreement. Currently \$ 10.3 billion has been

Developing countries should rely on renewable energy: photovoltaic panels in South Africa.



mobilised under the Green Climate Fund, and other resources such as the Least Developed Countries Fund are practically empty.

ADVANCING THE PARIS AGREEMENT

The 23rd conference of parties (COP23) of the UN Framework Convention on Climate Change in Bonn in November provides opportunities to progress discussions on filling these gaps between current country commitments and the unchangeable reality of the work required to address climate change. These multilateral meetings provide a space for countries to share knowledge and work together on projects that implement the goals and commitments made under the Paris agreement and the Convention, such as LDC REEEI discussed above.

In the negotiating room, the LDC group will continue to demand a robust "rulebook" for implementing the Paris agreement. This will include a framework for transparency that promotes accountability among countries through public scrutiny of their emissions' reductions and the support they provide to encourage greater action. At COP23, we need to see substantial progress made on this rulebook to move beyond procedural discussions to substantive outcomes.

Climate change is undoubtedly the greatest collective threat our world has faced, and defeating it requires a global response that is ambitious, fairly shared among countries and protects the world's poor and vulnerable. Much work remains to be done globally to achieve this. Countries must reduce their greenhouse-gas emissions rapidly to prevent further warming. Adequate support must also be provided to LDCs and other developing countries to protect the world's particularly vulnerable communities.

We must soberly evaluate the prospects of achieving the vital goals defined in Paris and adjust our actions accordingly if we are to safeguard our planet and our future. The fate of humanity hangs in the balance, and we must work together to ensure a prosperous future for all.



GEBRU JEMBER ENDALEW chairs the Least Developed Countries Group in the UNFCCC process. Idcchair.ethiopia@gmail.com

Holger Weitzel/Lineai

African action

Africa is the world region that is most vulnerable to the impacts of global warming. The continent's countries have contributed to bringing about the Paris agreement and they are eager to implement their nationally determined contributions to adapt to – and mitigate – climate change. They deserve support from the nations that have caused the phenomenon. Donor governments must live up to their promise of providing climate finance worth at least an annual \$100 billion from 2020 on.

By Anthony Nyong

Twenty-five years after the Rio Earth Summit in 1992, sustainable development remains elusive for many African countries. In 2015, the target year set to achieve the Millennium Development Goals, 70% of the continent's population still lacked access to improved sanitation facilities, 41% lived on less than the purchasing power of \$1.25 a day and 33 million of the 57 million of global out-of-school children of primary-school age lived in sub-Saharan Africa. In view of these grim statistics, the year 2015 saw renewed commitments to make progress. The UN adopted the 2030 Agenda for Sustainable Development as well as the Paris Agreement of the Framework Convention on Climate Change (UNFCCC). Moreover, the African Union (AU) adopted the Agenda 2063, a strategic framework for the socio-economic transformation of the continent over the next 50 years. The Agenda 2063 builds on – and seeks to accelerate – the implementation of past and existing continental initiatives.

The Paris agreement is designed to steer all continents on to a low-carbon and climate-resilient development pathway. Two years on, one needs to know if we are on the right path and what must happen next.

THE PARIS AGREEMENT

The Paris agreement grants parties the flexibility to make their own choices on how they will contribute to the fight against climate change. All parties were required to submit voluntary Intended Nationally Determined

Africa must leapfrog to renewable-energy technology: windfarm near Kenya's Rift Valley.



Contributions (INDCs) ahead of the 21st Conference of UNFCCC Parties in Paris in November 2015. Of the 54 African countries, 53 prepared and submitted INDCs in time for the adoption of the Paris agreement. Since then, over 50% of African countries have ratified the Paris agreement and adopted their Nationally Defined Contributions (NDC), helping to bring the Paris agreement into force substantially sooner than parties expected. This was another strong sign of parties' willingness to commit to the new global climate regime.

The NDCs amount to a strategy for developing countries to restructure their economies and livelihoods in more sustainable ways. The idea is to leapfrog to low-carbon and climate-resilient futures.

African NDCs have prioritised selected sectors. For adaptation purposes, these are agriculture, land use and forestry, water, energy, wetlands and infrastructure. For mitigation purposes, the focus is on energy, land use and forestry, agriculture, waste, industry and transport.

The INDCs of developing countries, including those of Africa, have two kinds of targets. The first are unconditional and the countries have committed to meeting these with their own resources. The second are conditional targets that can only be met with the provision of adequate support. Developing countries deserve adequate financial, technical and capacity-building support from the developed countries as well as the more prosperous developing countries. Those who have caused global warming must support those who must suffer its impacts.

Support is crucial. Africa is certainly the most vulnerable world region and already bearing the brunt of the adverse impacts of climate change. Whilst several African countries have mainstreamed their NDCs in their national policymaking and are implementing the unconditional aspects of their NDCs, Africa received just three percent of global climate finance by 2016.

Financial support has been very limited, resulting in significant climate-induced public expenditure displacements. A severe drought has recently hit southern Africa, so Mozambique had to reallocate the equivalent of \$13.1 million to drought response. It faces a financing gap of \$191 million. Lesotho spent the equivalent of \$12 million from its development budget on drought response and expects a one percent fall in GDP. Other African nations are struggling with the massive impacts of climate change too.

Two significant African initiatives were launched by Africa's heads of state and government at COP 21 as part of the Paris agreement: the Africa Renewable Energy Initiative (AREI) and the Africa Initiative on Adaptation (AIA). The goal of AREI is to pave the way for Africa's transition to inclusive green growth. Developed country partners pledged over \$10 billion to implement renewable-energy projects in Africa. Two years later, however, this initiative is yet to receive the promised funding to deliver projects on the ground. AIA is similarly still waiting for money for its implementation. The success of an initiative like the AIA would go a long way in reducing the current climate-induced hunger and famine in Africa

Unfortunately, the talk of providing resources to meet the conditional NDC targets of developing countries has dimmed. It is estimated that African countries require at least \$2.7 trillion for mitigation measures and another \$488 billion for adaptation to climate change by 2030. The magnitude of the need makes the long-term goal of mobilising \$100 billion in donor nations for climate action in the developing world seem like a drop in the ocean.

Without concerted action, the window of opportunity to avert dangerous climate change and related impacts is closing fast. It will become increasingly difficult to restructure economies as old technologies are locked in to long-lived assets such as power, industrial and transport infrastructure. Adding to the pressure, Africa's population is projected to increase by more than 80% to 2.2 billion by 2050. Production and consumption must increase accordingly, raising the stakes for all concerned.

Several initiatives have been set up in support of the implementation of developing countries' NDCs. One example is the NDC Partnership, which is funded by the governments of Germany, France, the Netherlands, Denmark and Britain, With 58 member countries and support from the multilateral development banks and UN bodies, the NDC Partnership is engaging with developing countries' ministries that are in charge of international climate issues as well as national economic and development planning. Since its launch at COP 22 in Marrakech last year, the NDC Partnership has already prepared searchable databases and toolkits to help governments strengthen NDCs and access funding sources to help find finance.

Moreover, the Agence Française de Développement has launched a new €30 million facility to assist NDC implementation in 15 developing countries. This new NDC Facility will help countries to strengthen their climate governance to ensure they effectively implement their NDCs, conducting capacity-building activities for all actors and in all territories. It will also help them to translate their NDCs into sectoral policies, combined with concrete action plans focused on key climate-change sectors. Finally it will provide support for designing transformational climate programmes and projects with a priority focus on adaptation. Action will be based on a robust analysis of vulnerabilities, adaptation solutions and options for controlling uncertainties.

Several African countries stand to benefit from these two initiatives.

THE NEED FOR FURTHER ACTION

For Africa, four things are crucial:

• The ratification of the Paris agreement is an important first step in addressing the global climate-change challenge. Countries which have not yet ratified, especially the high-emitting countries, need to do so. Moreover, all countries must implement their NDCs. These commitments are at the driving force of the Paris agree-

The role of the African Development Bank

The Climate Change Action Plan of the African Development Bank (AfDB) foresees the implementation of several initiatives. Such action will ensure that the African continent, which is suffering devastating impacts of climate change, will not be short-changed by climate finance.

The AfDB supports African countries in implementing the Nationally Determined Contributions (NDCs) that they have adopted in the context of the Paris Agreement. It also facilitates their access to global climate finance. The Bank has committed to allocating 40% of its annual funding to climate-related measures. Moreover, \$12 billion of the AfDB's own resources will be invested in the energy sector. It is expected that another \$50 billion from other partners will thus be leveraged. This policy demonstrates the multilateral development bank's resolve to support Africa's transition to climate-resilient, low-carbon development.

On top of all this, the AfDB is currently establishing the Africa Regional NDC Hub. It will:

• serve as a repository of current and planned initiatives,

• act as a focal point for identifying and sourcing financial support,

• share knowledge and best practice,

• support capacity development, including legislative ones, • promote technology transfer to take advantage of the falling costs of renewables,

• drive the large-scale shift to renewables,

• monitor the action of various partners and parties,

• track and report on financial transactions and

• establish an investment forum that will support the development of bankable projects.

The AfDB is committed to making the Paris Agreement work. Climate change is the greatest challenge the continent is facing. If we do not rise to it, all other problems will only get worse. ment. The withdrawal of the US from the Paris agreement is a major disappointment as it sends the wrong signal to emerging markets on the need to curb greenhousegas emissions. It is hoped that other developed-country leaders will get the US back on track to play a leading role in the fight against climate change.

• Africa is not seeking charity but expects the developed countries that have caused global warming to honour their commitments to support vulnerable countries. Most important is that the developed countries have pledged to raise for this purpose an annual \$100 billion of public and private-sector funding per year from 2020 on. This is the sum that was agreed at COP 15 in Copenhagen and the minimum they must deliver. It is already obvious that much larger sums are needed to keep global warming at or below the limit of an additional two degrees .

• Global solutions to addressing climate change must respect the need for climate justice and developing countries' right to development. They have contributed very

little to the problem. Developed countries and private-sector partners must join hands with African countries to ensure that Africa's public budgets are not distorted by climate related expenditure. Such spending has begun to crowd out other important budget items. Unless international climate finance is made available fast, Africa can neither achieve their NDCs nor the 2030 Agenda's Sustainable Development Goals (SDG).

• Finally, Africa needs to build capacity to increase resilience to climate-disaster risks. This is why the African Risk Capacity (ARC) was established as a specialised agency of the AU (see D+C/E+Z e-Paper 2016/12, p.20). The ARC uses modern finance mechanisms that combine risk pooling and risk transfer to create a pan-African climate response system. It is basically an insurance scheme that covers the burden of weather risks, enabling governments to build resilience. It allows them to better plan for and respond to extreme weather events. Unfortunately many African countries are unable to pay their premiums. Risk insurance is an important part of adaptation to global warming. Global climate finance must support African countries appropriately, and that includes the payment of ARC premiums. The ongoing famine in Kenya shows how Kenya is suffering for its inability to pay its premium.

The Paris agreement is the most farreaching treaty ever agreed by humankind. But the work is only just starting and today's NDCs, though remarkable, merely represent the first steps of a long journey. We must act now to redeem our commitments at COP 21, including the commitments to mobilise resources for AREI to enable it fast track the implementation of projects already identified across Africa. In this context, the African Development Bank is rising to its duties (see box. p. 28)



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Policy responses are needed

The Paris climate agreement not only contains ambitious goals to reduce greenhouse gas emissions. It also prioritises climate change adaptation. Most Nationally Determined Contributions (NDCs), especially those put forward by developing countries, include adaptation targets. The international community is called on to support their implementation.

By Nele Bünner and Till Below

Climate change is causing serious, unavoidable consequences in many places around the world – a trend that will continue even if the ambitious goal of the Paris agreement to limit global temperature increases to 1.5 to two degrees Celsius by 2100 is achieved. Therefore the agreement places great importance on climate change adaptation.

The treaty attempts to spread the burden between rich and poor countries. Starting in 2020, industrialised countries will be expected to mobilise \$100 billion a year for climate change mitigation and adaptation. Climate financing should contribute to a transformation of the global economy. What is being sought are structural incentives that will help reduce greenhouse gas emissions as quickly as possible and reduce the vulnerability of and risks to people and nature associated with climate change.

One important starting point are the adaptation goals that governments laid out in their NDCs for the Paris agreement. Experience shows, however, that the national



environmental action plans or National Adaptation Plans of Action (NAPAs) of developing countries often relied too much on the mobilisation of international funding.

The systematic integration of climate change adaptation into the policies of all affected areas is often hampered by a lack of support at the highest political level as well as a lack of institutional capacities. Many countries also lack meaningful information about climate risks as well as the relevant experts. In addition, scientists, civil society and the private sector have so far had too little input into adaptation policy.

Since Paris, Germany has funded several international cooperation projects that aim to address this bottleneck. Germany's federal government has focused in particular on promoting National Adaptation Plans (NAPs) that will help to meet the adaptation goals of the NDCs by systematically integrating climate issues in public investment programmes and other political processes. The support also hopes to achieve an appropriate division of labour between public policy and science. Such a division is precisely what determines whether societies find the necessary strength to take action.

CLIMATE CHANGE AS A CROSS-CUTTING ISSUE

These matters are currently playing an important role in Senegal and Benin, which are among the least developed countries (LDCs). In both countries, extreme weather events have led to enormous economic damage and loss of life in recent years. Climate change is threatening to cause even more harm.

Two-thirds of Senegal's people live in urban coastal areas. Ninety percent of industrial production takes place there as well. The low-lying coastal area is characterised by a high water table and poorly planned drainage systems. Even small volumes of water can flood whole neighbourhoods or industrial areas.

Rising sea levels and extreme weather events are also putting pressure on infrastructure and ecosystems. Some places that have experienced a tourism boom in recent years are now facing coastal erosion and losing sand beaches. Experts believe that climate change will further accelerate this process in future. Some hotels were forced to close. The loss of tourists also led to the closure of restaurants, small boutiques and handicraft shops that many people depended on. Fishermen also experience the impact of climate change first-hand when their houses are swept away by floods.

In its NDC, Senegal identifies the sectors in which adaptation measures are most urgently needed. With support from the United States Agency for International Development (USAID), an adaptation plan for the fisheries sector has already been drafted. Other sectors like tourism, water management, coastal management and agriculture still lack meaningful analyses of the effects of climate change. There is also a lack of the expertise and processes required for putting adaptation into practice.

This is where a project steps in, which is being carried out by the German Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf of Germany's Federal Environment Ministry as part of its International Climate Initiative and in cooperation with the non-profit research institute Climate Analytics. The project provides support to the governments of Senegal and Benin to improve their ability to provide scientific analyses and strengthen national coordination structures to adapt to climate change.

Senegal already has a great deal of expertise and climate information. But the data sets that climate research depends on are often unreliable or distributed amongst many institutions, making them inaccessible. Since 2003, one committee has coordinated all the country's climate policy processes, including the elaboration of the NDC and the adaptation plan for the fisheries. What began as an informal gathering has matured to a formal institution with a growing list of responsibilities that works across sectors and also involves scientists and environmental organisations.

This is already a step in the right direction. However, Emmanuel Seck from the non-governmental organisation ENDA Tiers Monde wishes that climate adaptation measures were systematically integrated into development planning. He believes that a great deal still needs to be done at the decentralised level in particular: "To date, very few regional authorities have territorial climate plans or local development plans that already take climate change into account."

In the fishing village of Bargny in Senegal, the first row of houses along the coast was washed out and then broke away.



In order to ensure that climate change is addressed not only in specially developed adaptation plans, but also in other planning processes, the project is helping the Ministry of Economy, Finance and Planning to revise the guideline that informs the creation of sectoral development plans. The guideline is being expanded by several steps that are meant to integrate the consequences of climate change for all updated sectoral strategies.

Benin's Ministry of Planning has also recently taken up climate change as a crosscutting issue. For example, every year the ministry puts out an "Analytic Report" that evaluates the implementation status of current development plans and sketches ideas and challenges for the upcoming year. The report is sent to representatives from ministries and parliament who are part of the budget planning process. The "Analytic Report" for fiscal year 2018, which is currently being compiled, devotes a detailed chapter to climate change for the first time. As a result, the issue will receive more attention when decisions are made about allocations of public funds in future.

EXCHANGE BETWEEN SCIENCE AND PRACTICE

Like Senegal, Benin has to deal with the impacts of extreme weather events more frequently. In 2010, for instance, extreme rainfall caused flooding. There was serious damage to infrastructure, transportation, schools, medical facilities and houses. Sixty-two percent of Beninese municipalities and 680,000 people were affected by the inundations. There were 46 deaths. Flooding that occurred between 2011 and 2016 destroyed over 140,000 hectares of arable land.

That is why farmers and processing companies are now taking an interest in climate change. Poorer harvests due to irregular periods of rainfall and drought, damage to storehouses or warehouses and increased energy consumption because of the need for more cooling all lead to higher costs, explains Camarou Bello from Benin's Chamber of Commerce and Industry. "It will become more difficult for us to create jobs and income if we do not face the risks from climate change," the economist warns. In order for him to be able to keep performing his duties and provide information to companies, he expects public institutions to do a better job of sharing relevant research results with



Flooded streets in Cotonou, Benin in June 2017.

businesses. He also believes that such data should be made digitally available.

In the Ministry of Living Environment and Sustainable Development, which is responsible for leading adaptation efforts, experts observe a big gap between those who produce information about the impact of climate change and those who are supposed to use this information for policy or economic planning. If it were up to Médard Ouinakonhan, the ministry's head of climate change adaptation, more scientific studies should guide policy decisions in Benin: "Just like the Intergovernmental Panel on Climate Change (IPCC) supports the Framework Convention on Climate Change."

In order to meet the demand for improved cooperation between science and policy, the project supports in both countries the set-up of committees that will be composed of representatives from the ministries, the private sector, the scientific community and civil society. Together they will define the need for and scope of scientific analyses and will accompany the research step by step in order to assure that it is useful for policy planning and the private sector. Everyone involved will also receive training on the topic at the same time.

Climate science has had a decisive impact on the global climate policy agenda of the past 20 years. In many West African countries, however, the national research institutes have not yet been well integrated into the development of adaptation strategies. As a result, political decision-makers lack knowledge about how many adaptation measures should be implemented, what techniques are needed, what the associated costs and benefits are and what policy actions should be taken. Interdisciplinary cooperation between practitioners and close collaboration with research institutes during the development of specific adaptation measures are both essential to reduce the threat of climate change to people and nature.



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"We don't need donor money to forge ahead"

Saleemul Huq is a veteran of multilateral climate negotiations. The Bangladeshi scholar is now focusing on networking universities from least developed countries in order to boost adaptation to climate change and mitigate global warming. In an interview, he elaborated why this is the right way to develop national capacities.

Saleemul Huq interviewed by Hans Dembowski

What has the Paris agreement delivered to least developed countries (LDCs) so far? I think there are four major achievements:

• Everyone is on board. That basically remains so in spite of US President Donald Trump's decision to quit. The good news is that all other parties want to continue. We have universal buy-in.

• The Paris agreement does not only concern governments. It concerns all relevant players: nation states, subnational authorities, local governments, private-sector companies, civil-society organisations, individuals. All of them are empowered to implement measures to mitigate climate change and adapt to the phenomenon. Everyone can take part.

• The Paris agreement takes a bottomup approach. Action is voluntary. Some of us worried that the non-binding nature of the agreement would make it toothless, but I think this is actually a strong point. It is better to work with the carrot than with the stick. We mustn't forget the failure of the Kyoto Protocol, which set binding emission for industrialised nations. The USA never ratified it, and Canada dropped out after some years. In principle, I am in favour of strong agreements, but experience shows that the imposition of rules does not work. Voluntary action is more effective for obvious reasons.

• Another advantage is that we can now form coalitions of the willing. All parties are doing what they consider to be in their own interests best. The 48 member countries of the Climate Vulnerable Forum, for example, have decided to go 100 % renewable by 2050.

Cyclone shelters have dramatically reduced the loss of life.



We no longer have to wait for every party to sign up to every single paragraph.

But does voluntary action really lead to meaningful transformation?

Yes, it does. Renewables have taken off; they have become highly competitive. No private-sector companies are investing in coal anymore. Some governments are still trying to keep the sector alive because they worry about some of their nation's industries, but otherwise coal is dead. It happened fast, in the bat of an eyelid. Petroleum and fracking are being hit too. Investors are increasingly opting for other technologies. E-mobility is another example, the transport sector is going electric. The green economy - green bonds, green investments, more transparency et cetera - is becoming reality. We are entering virtuous cycles, and we should do what we can to promote this trend further. Penalising fossils makes sense, for example. The crucial thing, however, is that this is now a market-driven process.

At current trends, nonetheless, global temperatures are still set to rise by three degrees or more. The goal is to keep the average increase below two degrees and preferably 1.5 degrees.

Yes, we certainly need to ratchet up. Since there is a risk that this may not happen fast enough, we must raise ambitions. We must find out what works and scale it up. We have to generate enthusiasm. If we want global warming to stay below two degrees, everybody has to do the right thing for their own reasons.

What must happen at the next Conference of Parties in Bonn in November?

My proposal is to turn the format of these conferences inside-out. Those who design and implement action should get centre stage. In the past, the governments negotiating global agreements in the context of the UN Framework Convention on Climate Change (UNFCCC) mattered most. It was all about words on paper. But their work was completed in Paris. UNFCCC conferences were actually always unusual UN events in the sense of involving many stakeholders rather than only governments. Civil-society activists, scholars, private-sector groups et cetera were the side show, however. Now they deserve full attention. What matters most today is to share experience, spread information and move forward. We can focus on ground-level action now rather than worry about legal jargon.

According to the Paris agreement, all governments must declare what they intend to do in terms of climate policy. Do these nationally determined contributions matter at all?

Yes, they are useful. They make sure that everyone is on the same page. They facilitate cooperation and comparisons. Moreover, they do drive action by governments. China and India are going solar, they'll most likely phase out coal faster than they have declared so far. The important point is that they are doing what is good for them.

What should LDCs do?

We are thinking about how to leap-frog. We will not make the same mistakes the so-called advanced nations made. We must opt for sustainable solutions immediately. We can - and must - delink development from fossil-fuel consumption. It is true that, at this point in time, nobody knows exactly how that can be done, but determined leadership can certainly make it happen. Our governments have a role to play. Their decision to go 100% renewable is pointing the way. Moreover, we must adapt to global warming. We are learning fast, facing huge challenges and tackling them. The poor are actually more resilient than prosperous people are, and we have to develop even more

resilience, especially among the most vulnerable people. Bangladeshis have always been hit by floods and cyclones, but we always carried on afterwards, and we are getting ever more resilient.

Please give an example.

Well, we had two cyclones this year. We proved capable of evacuating 2 million people at short notice. Only 28 deaths were recorded - and every person concerned had actually left a storm shelter for one reason or another. We do not know yet how many fishermen out at sea were killed, but we do know that the majority of the more than 3000 casualties claimed by Sidr, the devastating cyclone of 2007, were people on fishing boats that could not be warned in time. These figures need to be seen in perspective. In 1991, a cyclone of similar force killed almost 130,000 people. And in 1970, an estimated 300,000 to 500,000 died due to another one. Bear in mind that our population has grown in all those years. Today, our early-warning system is working, our cyclone shelters are robust, and our statistics are much more precise. Cyclones still do a lot of damage, but we've dramatically reduced the loss of life.

Yes, I agree, and your colleague Feisal Rahman recently made that case in D+C/ E+Z (e-Paper 2017/04, p.22, and print edition 2017/05–06, p.30). However, he also pointed out many other challenges, including the salinisation of aquifers or fast

Urban growth is a serious challenge – apartment building in Dhaka.



D+C e-Paper September 2017

urban growth. Will Bangladesh really be able to cope?

No doubt, the impacts of climate change will be severe and strong, so we must work hard and learn fast. My point is that, in spite of all our problems, our economy is growing, and we are making considerable progress.

That is true of Bangladesh, but not of all LDCs, especially not in sub-Saharan Africa. Yes, there are great differences between countries, and the problems are obviously greatest in strife-torn places. Nonetheless, LDCs are making collective efforts, and we are not waiting for the international community to come to the rescue. There is a lot we can do without donor assistance, not least because we have more in common with one another than with donor countries. We must ensure that best practice spreads fast.

Please give an example.

At a meeting at Makerere University in Kampala, Uganda, several universities recently teamed up to establish the Least Developed Countries Universities Consortium on Climate Change (LUCCC). My International Centre on Climate Change and Development (ICCCAD) at Independent University, Bangladesh (IUB) is a leading member. LUCCC is a south-south initiative. We will be exchanging researchers and faculty among one another. The sending university will cover the travel expenses, and the host university will pay for the colleague's stay. We will be learning from one another and building capacities this way.

Do you see a role for international donor agencies?

I am not a great fan of official development assistance (ODA). I would rather see donor governments fulfilling other obligations, especially ensuring the flow of the annual \$ 100 billion they have pledged in support of climate mitigation and adaptation in developing countries from 2020 on. The problem with ODA is that it is entirely donor-controlled. Consider capacity-building, for example. In the past 10 years, donor governments have invested € 300 million to €400 million in capacity building, but the lion's share went to their own agencies like Germany's GIZ or Britain's DfID. Fly-in/flyout consultants don't really build capacities, however. That is why Article 11 of the Paris agreement states that capacity development must be done long-term and in-country. Donor money would be better spent on universities in LDCs because universities are the places where nations generate knowledge and train leaders. They are the hubs of serious capacity development. So yes, if donor agencies want to support LUCCC, they are welcome to do so. They could help us scale up our programmes, but we do not need donor money to forge ahead.

Two years ago, when I last interviewed you ahead of the climate summit in Paris (D+C/E+Z e-Paper 2015/06, p. 16, and print edition 2015/06-08, p. 8), you sounded much more pessimis-

tic. Now you seem somewhat over-optimistic. I appreciate the efforts LDCs are making, but I fear the impacts of climate change may prove even worse than expected.

Well, perhaps I am over-optimistic, but that is not something I worry about. If we keep considering every problem that may lie ahead, we will not be up to the tasks we're facing. We have to be normative, we have to say: this is what we want to happen. If we don't set goals, we won't get there. So no, I am not focusing on what might go wrong, but on what needs to be done. Moreover, I am now spending much more time working with students in Bangladesh, young men and women who want to make a difference. They need guidance more than they need money, and their energy and enthusiasm are most encouraging. They inspire optimism.



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Network of universities in LDCs

Ten universities from ten Asian and African countries have joined forces in a new organisation. It is called the Least Developed Countries Universities Consortium on Climate Change (LUCCC). The goal is to eventually involve universities from all 48 least developed countries (LDCs). The leading members are Independent University, Bangladesh (IUB) and Uganda's Makerere University.

A work plan was agreed in June. According to this document, LUCCC is designed to share knowledge, develop capacities, support policymakers and network universities. The consortium will tackle climaterelevant topics such as climate finance, coastal-zone adaptation and urban resilience. Particular attention will be paid to community-based adaptation. LUCCC is geared to long-term capacity building and climate education in line with Article 11 of the UN Framework Convention on Climate Change's Paris Agreement.

LUCCC is a genuine south-south initiative. Membership is restricted to higherlearning institutions in LDCs. So far, the consortium is operating without donor support. Among the things LUCCC plans to do are:

• running a visiting researchers' programme,

• developing and exchanging curricula and teaching tools,

• launching a web portal and

• extending the network to additional LDCs.

Should donor money become available, the scope of action would increase. Options include fellowship programmes, student exchange and joint research efforts or annual workshops, for example. Moreover, LUCCC could participate in global climate summits and other conferences with sufficient support.

Apart from IUB and Makerere, the founding members of LUCCC are:

• the Royal University of Bhutan,

• Pokhara University, Nepal,

- Addis Ababa University, Ethiopia,
- the University of Khartum, Sudan,
- the University of Dar es Salaam, Tanzania,

• Eduardo Mondlane University, Mozambique,

• the University of the Gambia and

• the University of Cheikh Anta Diop, Senegal.

LINK

Least Developed Countries Universities Consortium on Climate Change (LUCCC): http://luccc.icccad.net/



"The Republican party must wake up"

The single most powerful person on earth, US President Donald Trump, is a denier of human-made climate change. Jennifer Morgan of Greenpeace International explained in an interview what must happen to prevent him from causing long-term harm.

Jennifer Morgan interviewed by Hans Dembowski

The Republican party is very unusual among the dominant political forces in highly developed countries. Who is driving its anti-environmental agenda? All of its leaders deny human-caused climate change.

No, that is not true. Some elected officials in the Republican party understand the science, but that of course is not enough. Even though there are elected Republicans at the local, state and national level that are addressing climate change, the party as a whole continues to back the interests of the fossil fuel industry. Those Republicans who understand the climate crisis, must be a loud resistance to the stance the Trump administration is taking.

Yes, but they are the minority among Republicans. They were not even close to stopping President Trump from quitting the Paris agreement. Who is supporting him? I see a combination of forces. The two most

important are fossil-fuel industries – including the oil sector – and the anti-globalists, such as Steve Bannon and Scott Pruitt.

• The fossil-fuel lobby has ferociously protected its interests for a long time. For example, Charles and David Koch, two brothers whose billionaire-wealth is based on oil and gas, have spent a lot of money to cast doubt on climate change. Climate-change denying think tanks and media outlets have been supported by other donors as well. In view of the scientific evidence, the fossilfuel lobby is now only holding on by the fingernails, and its leaders consider Trump an opportunity for implementing irresponsible policies. • The anti-globalists, such as Steve Bannon, claim that the USA is being hamstrung by international commitments and must break free again. They oppose any kind of multilateral policy-making. According to their destructive ideology, all nations compete with one another and there is no such thing as collaboration around shared interests or global public good.

The Republican party must wake up to the fact that its leader in the White House is irresponsible. Science denial is not tenable.

To what extent has Trump managed to undermine the Paris agreement?

Not at all. Trump actually galvanised more support for the agreement, both in the USA and globally, as seen at the G7 and G20 summits. In the longer run, however, US policy certainly matters. After all, the country is historically the largest climate gas emitter. The USA must keep reducing emissions, which is supported by a majority of people in the USA.

Michael Bloomberg, the philanthropist billionaire and former mayor of New York City, says that the USA will fulfil its climate obligations in spite of Trump. Is he making sense?

On the fact that emissions can and will continue to decline despite Trump, yes, he

On Earth Day (22 April), about 100,000 people took part in the March for Science in Washington, DC. Related rallies attracted some 70,000 demonstrators in Boston, 60,000 in Chicago and 50,000 each in Los Angeles and San Francisco.



is. The economics is clear. There will be no renaissance of coal because investors are shying away from that fuel. The increased access and affordability of renewable energy brings economic benefits. The power sector's transition to cleaner options is unstoppable, so emission reductions are likely to stay on track as spelled out in previous President Barack Obama's Clean Power Plan. A lot is happening in transportation too, just consider electric cars. Moreover, it takes a long time to roll back regulations, just like it takes a long time to introduce regulations. The administration's attempts to roll back the actions of the Environmental Protection Agency will be slowed by legal action in the courts. Importantly, statelevel and local policy-making also matter verv much.

In what sense?

One example is that, for decades, the precedent-setting driver of limits on car emissions in the USA has been California, not the Federal Government. The reason is that California is the most populous state, and car makers must meet its pollution standards to sell their products in this important market. California has also been a driver of climate protection for a long time. Other states are moving forward too. Iowa, for example, is run by a Republican governor. It is on track to have 40 % of its electric power generated by wind farms. So yes, Bloomberg has a point, a lot can be done bypassing the White House.

But will it be enough? Humanity needs fast action to keep global warming below two degrees on average.

It will require local governments, cities, states and the private sector to do the right thing. There is a dynamic movement called "We are still in". It includes prominent political leaders and business people who want the USA to live up to its climate responsibility. Opposition of this kind is imperative. But yes, the big question is whether this will be enough to scale up and accelerate action. We cannot afford to lose four years under the Trump administration.

In Copenhagen in 2009, Obama and the other leaders of the industrialised nations

promised that an annual \$100 billion in public and private funding will be made available for climate mitigation and adaptation in the developing world from 2020 on. Will the USA live up to that promise?

Well, the USA is basically able to pay, so it should continue pay. Until 2020, there will not be a big gap, because the Obama administration already transferred about a third of the money promised until then to the multilateral Green Climate Fund. Moreover, opinion polls show that there is strong support in the USA for building the resilience of poor countries, and that is even so in very conservative areas. So there is scope for action. Trump's budget proposals, however, have not prioritised climate issues, quite the opposite, so other governments and banks will have to step in and increase their contributions. At the climate summit in Bonn in November, we need to hear announcements from other developed countries. They must reassure vulnerable nations that the rich countries will not leave the disadvantaged ones alone, without any support.

How do you assess the climate performance of European countries so far?

Their current stance is mixed. Their commitment to the Paris agreement as shown in the G7 and G20 is strong, but their national implementation does not match the rhetoric. Consider Germany, for example: your Federal Government has been dragging its feet on electric mobility, and it is still far too slow on phasing out coal. Germany must step up its ambitions, and so must the EU and its other member countries. Europe should grasp this opportunity to lead; its people want change. Europe's leaders must understand that climate change is a fundamental economic fact. It is not some side issue. Things are actually quite simple: without environmental sustainability, there can be no financial stability, no job stability, no social stability. If Europe does not turn the corner, it will decline.

You just said that banks also have a role in making sure that the \$100 billion for mitigation and adaptation flow to the developing world as promised. Are you thinking of multilateral or private-sector banks? Both must play their part. In the context of the Paris agreement, the multilateral banks are actually committed to the zeroemissions goal. The G2O's Financial Stability Board, which makes recommendations concerning the global financial system, has stressed that financial institutions must always consider the material risks of climate change. Of course, private-sector banks need to act too. Greenpeace is observing and engaging the financial industry. We're very active in pointing out irresponsible and unsustainable investment practices.

I recently asked my local cooperative bank in Frankfurt whether they had any products on offer for retail investors like me who would like to contribute to private-sector climate finance. The response was that the idea was interesting, but they did not have any relevant product. The implication was that they will probably act once some kind of government scheme promoting such investments is put in place. To date, that has not happened, and they are not taking the initiative on their own. Is Wall Street any better?

No, at least not yet. But banks' attitudes are shifting. HSBC, the British-based multinational bank, recently pledged to ensure that its financing will not contribute to deforestation by the palm oil industry. Forests are important carbon sinks and centres of biodiversity, so Greenpeace is focusing on this topic. Our experience shows that banks - which increasingly view fossil fuels as poor investments - reconsider business issues when one makes them aware of problems. No matter who is in the White House, the financial-industry managers know that they must pay attention to what the public thinks and expects. Determined civil-society activism makes a difference.



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No time to rest on laurels

The Paris climate agreement was concluded in December 2015 and triggered a wave of excitement. The international community had agreed to cooperate on limiting climate change. The initial euphoria has since dissipated. Where do we stand today?

By Thomas Loster

The good news first: global emissions of carbon dioxide, the most important greenhouse gas, have levelled off in recent years in spite of global economic growth. That is very much the kind of development that the Paris agreement was designed to achieve.

At the 21st Conference of the Parties (COP21), 196 countries agreed in the



More renewable energy is vital for achieving the Paris climate targets: a wind farm under construction in Germany.

French capital to cooperate on slowing down the rise in global average air temperature near the earth's surface. At the same time, the international community committed to the ambitious goal of limiting global warming to well below two degrees above preindustrial levels. It also pledged to help the poor and worst-hit countries to adapt to climate change and to promote global financial flows in order to boost the resilience of the communities affected.

It all sounds good. Even the number of countries committing to the agreement is impressive. As of August 2017, the accord has been signed by 195 parties to the UN Framework Convention on Climate Change (UNFCCC) and ratified by 159 countries.

Several weeks ago, US President Donald Trump announced that the United States – the world's largest economy and historically the biggest emitter of carbon dioxide – will pull out of the Paris agreement. Fortunately, that has not so far shaken confidence in the accord. On the contrary, it has given rise to a kind of "now more than ever" determination.

France's newly elected president, Emmanuel Macron, openly criticised the United States. That rebuke should not be overestimated. It matters, however, that the G20 summit in Hamburg in July sent a powerful signal when 19 countries unanimously affirmed their commitment to the Paris agreement. The final vote left the US isolated 19 to 1.

Trump has neither managed to sow doubt and insecurity, nor to deal a blow to the transition to cleaner, sustainable energy. His plea for coal and the possible abandonment of renewable forms of energy generally failed to make much of an impression. Even within the United States, there has been fierce opposition, especially from parts of the business community seen as industries of the future.

SYMBOLIC POWER

What really makes the Paris agreement important, is its symbolic power – the sense that all nations are working together to

mitigate climate change. Thus, it is the most comprehensive climate treaty ever. But it must not be excessively eulogised either. It offers a big framework, which still needs to be filled with life.

It is good to see that the "below two degrees" target has now broadly been ratified. But the reality is that – even if current national reduction targets (nationally determined contributions – NDCs) are implemented – we will still be heading for a three degree rise in global temperatures. The plans in place at country level will not achieve the goal.

Much of the momentum generated by the Paris climate summit has now dissipated. Various debates mark day-by-day politics – from the United States' dispute with North Korea, to the discussion about refugees in Europe, to the diesel scandal involving German car makers. In this setting, climate change mitigation is easily side-lined – even though 2017 has once more shown that the warnings issued by the Intergovernmental Panel on Climate Change (IPCC) deserve to be taken seriously. Extreme weather events are increasing.

Torrential rains, heat waves and droughts have wreaked serious damage in Europe this summer. Flash floods and landslides in Germany and Austria, torrents and hailstorms in Turkey, parched earth and forest fires in southern Europe are just a few examples. Such events barely made headlines, the daily news-cycle was dominated by issues such as migration and Trump.

Speaking of migration, unbridled climate change will result in a major surge in refugee movements in the medium to long run. It is safe to make that assertion. What we are witnessing today is just the beginning of a bigger development. While climate stress is not the primary driver of migration so far, it clearly is a catalyst. As the growing populations of poor - and sometimes fragile - states are becoming exposed to ever growing climate stress, waves of displaced persons are a virtual certainty (see the Platform on Disaster Displacement article in D+C/ E+Z e-Paper 2017/04, p. 26, and print edition 2017/5-6, p. 34). A one-metre rise in the level of the Mediterranean Sea, for instance, is likely to force more than 6 million people out of their homes in Egypt. For that reason alone, curbing climate change needs to be an international priority.

LOSING TIME

Not enough tangible action has been taken to achieve the vision of the Paris agreement, which is to decarbonise the global economy as fast as possible. The reason is that the Paris agreement stipulates rather generous mechanisms. Countries can decide on their own contributions, plans and regulations for reducing emissions. However, there are no mechanisms for enforcing compliance. The only requirement is that country targets should be ambitious. The Paris agreement has postponed verification of implementation to sometime in the future. We risk losing valuable time.

Arguably, the debate on mobility and combustion engines that stirred emotions in Europe this summer indicates political action.

Norway advocates emission-free new cars from 2025. The UK plans to ban the sale of diesel and petrol-powered vehicles from 2040 on. Michael Gove, Britain's cabinet member in charge of environmental matters, made this vow in the context of the UK's current clean-air plan. Under it, all diesel and petrol cars and vans are to disappear from UK roads by 2050.

France's Environment Minister Nicolas Hulot similarly announced an ambitious climate protection plan, stressing the importance of the Paris climate summit. His five-year plan will banish environmentally harmful vehicles. Moreover, the country plans to stop using coal to generate electric power by 2022. Major investments aimed at boosting energy efficiency were also announced. In contrast, the debate in Germany about test-cheating car software and nitrogen-oxide emissions of luxury vehicles is simply embarrassing.

SIGNALLING THE TRANSITION TO CLEANER ENERGY SYSTEMS

Electromobility is only a small – albeit important – part of the needed response to climate change. On the energy front, positive signals are seen in the electricity market. The phasing-out of coal power stations, which is also a much-discussed issue in Germany, would be a huge step forward. The energy transition is gathering momentum in many countries – fast in some, but at a slower pace in others.

New mobility patterns are emerging in numerous cities. Electric cars, car-sharing models, even rail travel is experiencing a renaissance in some places. These positive trends must be sustained. There is massive potential in the energy and climate transition – and there are many opportunities. Countries and industries that position themselves successfully in the fields of smart grids, grid development or storage technology now will be ahead of the competition in the coming decades.

Technological innovations in areas like this offer unique opportunities to an industrial nation like Germany. Successes in the transition to sustainable-energy systems can create new momentum. Incentives are important. It will now be interesting to see whether all the pledges made in 2017 will be followed up with action.

MOMENTOUS DECISIONS

Important tracks will be laid at the upcoming climate summit in Bonn (COP 23). In 2018, the member states will have to declare their climate targets. If they are ambitious, plausible and long-term, they can inspire courage and motivate. Key countries must not rest on their laurels now, letting things slide. The big emitters, in particular, need to commit to action.

If policy is set to continue in the direction towards decarbonisation, renewable energy and reduced subsidies for fossil fuels, we will achieve an important sub-goal. Higher costs of carbon emissions could provide a robust price signal and promote climate-friendly investments. The energy transition will not be brought about without reliable long-term investments. A lot needs to be done at the upcoming climate talks – as well as at national and regional levels. It is not enough just to express a commitment to climate change mitigation. Real success depends on action living up to promises.



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Thawing glaciers

Such immense quantities of freshwater are bound in the icy glaciers of the Himalayas that these mountains are sometimes called the "third pole". These glaciers' meltwater feeds Asia's most important rivers. But the temperature in the Himalayas is rising twice as fast as the global average. In the near future, this means more avalanches and flooding in nearby regions. In the long run, extreme water scarcity is looming.

By Sheila Mysorekar

Apart from the North and South Pole, no other world region has such enormous quantities of ice as the Himalaya mountain range. The Hindu Kush Himalaya (HKH) is a complex mountain system. It provides fresh water resources to more than 210 million people in the mountains and 1.3 billion people downstream.

Three major rivers – the Indus, the Ganges and the Brahmaputra – arise in the Himalayas and flow to South Asia, whereas the Yellow River, Yangtze, Mekong, Irrawaddy and Salween Rivers arise from the Tibetan Plateau and flow to China and Southeast Asia. These giant rivers are the source of water for drinking, washing, irrigation, fishing and industry. In times of drought, it is only thanks to the water from the Himalaya glaciers that the rivers do not run dry and that groundwater resources are recharged.

However, the median temperature on Mount Everest – the highest peak of the Himalaya mountains – is now 1.5 degrees higher than at the beginning of industrialisation, as a recent study published in the science journal Nature reports. The impacts are potentially disastrous:

• Glacier lakes fill up too high so dams become more likely to break, devastating villages downstream.

• Dwindling glaciers today mean there will be less spring meltwater in the future. Countries that mostly depend on Himalaya water will suffer most.

According to the journal "Asia's glaciers are a regionally important buffer against drought", glaciers are a "uniquely drought-resilient source of water." The summer meltwater from the Himalayas is declared to be sufficient for the "annual municipal and industrial needs of Pakistan, Tajikistan, Turkmenistan, Uzbekistan and Kyrgyzstan". In drought summers, most river water in the upper Indus and Aral basins is meltwater. The world's largest system of irrigated agriculture is situated along the Indus river and depends totally on its water. The region's farmers are very vulnerable to drought, since the summer monsoon is less dominant here than farther east.

The author of the paper, Cambridge University glaciologist Hamish D. Pritchard, maintains that the "populations of High Mountain Asia (HMS) are particularly vulnerable to water shortages". Over the past century, drought has been the most damaging form of natural disaster in the region, causing more than 6 million deaths and affecting 1.1 billion people. Pritchard warns: "This water-stressed and vulnerable region is not well prepared for the sustained droughts that have periodically afflicted it."

Chola Tsho Lake, Himalaya, Nepal.

The long-term challenge is that glacial ice – the only buffer to protect against extreme water shortages on seasonal and longer timescales – is dwindling. Glacial meltwater supply continues in droughts. Pritchard argues that "unlike seasonal snow cover that fluctuates annually, glaciers delay the passage of water through the hydrological system by storing precipitation as ice, which flows slowly to lower altitudes before melting in summer."

Climate science predicts more drought-related water and food shortages in Asia in coming decades. The problems will be exacerbated by further loss of glacial ice, which, of course, is an impact of global warming too. In future summers, the author points out, rivers' meltwater input may "decrease by half or more, exposing downstream populations to yet greater water stress." This could be a "potential trigger for a corrective price shock that could be profoundly destabilising for the region," Pritchard warns.

Pritchard, Hamish D., 2017: Asia's glaciers are a regionally important buffer against drought, Nature magazine.

http://www.nature.com/nature/journal/v545/ n7653/full/nature22062.html



LINK

Himalayan tsunamis



ICIMOD member countries.

Mountain communities in the Himalayas must adapt to the impacts of global warming. For protecting their fragile ecosystems, they need assistance.

"Climate change is poised to shift precipitation patterns and speed glacial melt, altering water supplies and intensifying floods and drought," warns Betsy Otto of the Washingtonbased World Resources Institute (WRI). The WRI predicts that Pakistan will experience "extremely high water stress" in 20 years. The trend was recently confirmed by a study published in the science journal Nature.

In January 2016, the nongovernmental organisation Waterkeeper Alliance launched an initiative to protect the Himalayan waters. The network covers India, Nepal and Bhutan, striving to protect the "third pole", as the mountains and their ecosystem are sometimes called because only the Antarctic and the Arctic have comparable masses of ice and snow.

Ladakh is one of the regions affected. It is part of the Indian state of Jammu and Kashmir, located at an altitude of almost 3,000 meters. Ladakh has been witnessing catastrophic flash floods. Rapid deforestation has compounded the problems. Flash floods are expected to become more common and are now called "Himalayan tsunamis".

The International Centre for Integrated Mountain Development (ICIMOD) is an intergovernmental agency that serves as learning and knowledgesharing centre in eight member countries (Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan). It is based in Nepal's capital, Kathmandu. Global climate change has negative impacts on the fragile mountain ecosystems and the livelihoods of mountain people. The ICIMOD's mission is to assist "mountain people to understand these changes and adapt to them".

The ICIMOD identifies three challenges in the management of surface and groundwater in the Hindu Kush Himalaya (HKH):

• The mountain ranges' hydrology – and particularly how surface and ground water interrelate – is not fully understood.

• Statistics tend to be poor and data is not shared much in the region, so policymakers cannot base decisions on solid information.

• The big rivers cross borders, so appropriate policies can only be made at an international level. Water management schemes, however, are national. They tend to focus on short-term needs with little concern for long-term consequences. Countries in the HKH need to expand the scope of their focus to conserve transboundary aquifer systems.

LINKS

Waterkeeper Alliance: http://waterkeeper.org/ World Resources Institute: https://www.wri.org/ International Centre for Integrated Mountain Development (ICIMOD): http://www.icimod.org/



