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URBAN LIFE

Fast growing cities
need eco-friendly
transport options

POPULIST POLITICS

Why many Brazilians
have lost faith in
democracy

HANDICRAFTS

A Bengali tradition
now serves to
empower women



**Global environment
in crisis**

Global environment in crisis

Local communities matter

Humanity cannot afford to lose the Amazonian forests, but deforestation is progressing. Recognised indigenous territories serve as protective barriers, reports Carmen Josse of the Fundación EcoCiencia in Ecuador. In Morocco, the High Atlas Foundation is running a pro-poor agro-forestry programme that improves people's livelihoods as well as the health of the natural environment. The key to success is the participatory approach, writes Kerstin Opfer, who evaluated the programme. Media scholar Karim Okanla assesses why grassroots communities are driving deforestation around Savè in rural Benin. Carolyn Williams-Gerdes took part in a UNDP mission after a devastating landslide in Freetown in Sierra Leone in 2017. One lesson, she argues, is that urban planning must take into account multi-faceted environmental issues.

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Protecting biodiversity

High-tech farming erodes the biodiversity of agriculture. Organic agriculture with traditional landraces is a sustainable alternative. It is promoted by Sahaja Samrudha, a non-governmental farmers organisation in India, as Anitha Reddy, Samrudha's communications director, elaborates. Tropical coral reefs are often likened to rainforests due to their great biodiversity. In spite of their incalculable value to humanity, they are under threat, warns Jenny Kruttschinna of Reef Check, an NGO. Stephan Opitz of KfW Development Bank draws lessons from 30 years of conservation finance.

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“The most powerful driving force is climate change”

The earth system is changing dramatically with impacts on the environment and people's lives. Dirk Messner, the director of the Institute for Environment and Human Security of the United Nations University (UN-EHS), explains the greatest risks – and what kind of global transformations are needed to manage them.

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Awash in trash

The world is drowning in garbage. According to a recent World Bank study, under current trends the world will generate 3.4 billion tonnes of municipal solid waste per year by 2050, up from 2.0 billion tonnes in 2016. Journalist Aviva Freudmann summarises the study.

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Undeniable challenges

Recently, I went to see a freshly prepared whale skeleton with my family. The young sperm whale had belonged to a group of about 30 bulls who had accidentally entered the North Sea three years ago and never found their way out. The University of Gießen obtained one of the carcasses and has now put the skeleton on public display.

Why the whales went astray on their way south from the Arctic Ocean is unknown. One theory is that they followed swarms of the octopuses they feed on. The squids normally find the North Sea too cold, but they may have ended up there either because of increasing water temperatures or unusual currents that resulted from strong storms. Another theory is that underwater noise from ships and oil rigs disoriented the whales. Solar flares, which influenced the earth's magnetic field, are yet another possible reason why they lost their way. Whether the whales fell victim to human-made change in their environment is not certain.

In any case, however, a stranded whale perfectly illustrates the fragility of ecosystems – and it triggers emotions. As large mammals, whales resemble us. My children were impressed because the bones of a sperm whale's pectoral fin look very much like those of a human hand.

Whales appeal to humans, and so do polar bears or orang-utans, two other endangered species that activists like to use as symbols for environmental protection. Pictures of such animals feature prominently in campaigns to protect the climate or primeval forests for example. Using photos this way is entirely legitimate – but the survival of individual species is not what matters most. For the earth system, it is probably irrelevant whether the sperm whale, the polar bear or the orang-utan goes extinct. What is most relevant, by contrast, is that species have never disappeared in such great numbers and at such great speed as they do today. The great risk is that entire ecosystems will collapse should “tipping points” be reached and irreversibly change the environment.

No doubt, humans are the driving force behind the major environmental changes we are witnessing. The dangerous trends are being accelerated by us humans as we overexploit resources, produce waste and generate emissions. Our entire economic system is destructive – especially in the industrialised countries. The great challenge, therefore, is to change that system. For good reason, the UN has been tackling the issues for many years. In 1992, at the Earth Summit in Rio de Janeiro, the international community agreed on the paradigm of sustainable development, adopting important agreements such as the Framework Convention on Climate Change, the Convention on Biological Diversity, the Forest Principles and the UN Convention to Combat Desertification. Many other agreements have since been concluded, such as the Agenda 2030, which includes the Sustainable Development Goals (SDGs), and the Paris Agreement on climate change in 2015. What is still lacking, of course, is determined implementation.

We must not give up. In September, the UN will hold the next sustainability summit in New York, four years after the previous one. It must add strong momentum to fulfilling the commitments made in international agreements.

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



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Debate



Anger about lurch to the right

Lenín Moreno was elected president of Ecuador in May 2017 as the candidate of the Alianza País (AP), a centre-left party. He seemed to defy the continental trend to more right-wing politics. The way he is running the country fits that pattern, however, disappointing his supporters. Timm Benjamin Schützhofer, a scholar, assesses the situation.

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Tribune



Valuable tradition

Kantha is a traditional handicraft in the Indian state of West Bengal and Bangladesh. On both sides of the border, women are generating incomes by stitching and selling intricate embroideries, as Kolkata-based business journalist Aditi Roy Ghatak reports.

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The marathon of development finance

Last year, Joachim Nagel joined the board of the KfW Group. He is in charge of its international businesses, including the division for global development. In an interview, he discussed the principles of sustainability and the financing needs to implement the SDG agenda with D+C/E+Z's Sabine Balk and Hans Dembowski.

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PUBLIC TRANSPORT

Rethinking mobility

Mobility in the cities of emerging markets and developing countries is becoming ever more important. While countries of the global north aim to reduce car traffic and make it cleaner, many countries of the global south are facing completely different challenges. There is usually neither mass car traffic yet, nor do they have good public transport systems. Experts promote sustainable solutions.

By Sabine Balk

In industrialised countries, the aspiration is to expand and improve public transport so people stop commuting by car. E-mobility is a hot topic. Emission-free cars or buses with electric motors are being favoured. To curb congestion, people are encouraged to share

the use of cars, organised by companies such as Uber or Zipcar.

The global south is facing rather different challenges, says Shreya Gadepalli of the Institute for Transportation and Development Policy (ITDP), a global non-governmental organisation focusing on planning and building sustainable transportation systems. The most widely used means of transport in India, for example, are “feet and bicycles”. The reason is not that Indians are environmentally aware. They simply lack alternatives. According to Gadepalli, there is hardly any public transport in India: only two percent of trips are made by metro, nine percent by train and 18% by bus. Informal means such as private minibuses or rickshaws, by contrast, are very important.

Gadepalli vehemently opposes expanding car traffic. It is environmentally harmful and unsustainable. “We need to build roads for walking,” she declares. In her opinion, intelligent traffic concepts must be developed, and they should mainly rely on extensive bus networks. At the Development Finance Forum (DFF), which KfW Development Bank hosted in Frankfurt at the end of December, she called for bus transport to be subsidised.

ITDP has already achieved a lot, Gadepalli says. For example, it has advised the municipal authorities in the Indian cities of Pune and Chennai. Ten years ago there were no sidewalks. ITDP made it clear that sidewalks improve road safety, and some 100 kilometres of sidewalks have been built.

Matthew Baldwin, mobility expert of the European Commission, points out that emerging markets and developing countries should not follow the northern example. “In the past, when we were poorer, we used to walk or cycle,” he says. “As we got richer, we bought cars.” Now the question is how to get



Cities in developing countries and emerging markets need new mobility solutions: traffic in New Delhi.

away from cars again in the global north. The global south should not start to rely on them in the first place.

Gadepalli has a solution: making driving expensive and bus transport cheap, preferably free of charge. In the end, money is always the decisive factor.

The World Resources Institute (WRI), a think tank based in the USA, is working on concepts for what urban mobility should look like all over the world in the future. WRI's Aniruddha Dasgupta is convinced that a turnaround in mobility is needed to keep cities liveable. In Frankfurt, he stated:

- Mobility is not an end in itself, accessibility and connections matter just as much. Traffic planning must be "inclusive". Road users should have links to every means of transport. For example, sidewalks and cycle

paths should lead to bus and train stations. Moreover, park-and-ride spaces should be available. Bus and train lines should be coordinated.

- Mass transport must not be forgotten. Where passenger numbers are large, light rail systems should be built. Funding is crucial, so governments, development banks and private companies must join forces and rise to the challenges together (see box below). A good example is metro construction in Nagpur, India, which KfW is supporting with a promotional loan (see my essay in Tribune section, D+C/E+Z e-Paper 2019/01).

- Data are becoming ever more abundant and relevant. They must be regarded as infrastructure. Data processing can reveal mobility needs and identify traffic flows in ways that allow for organising and optimising.

Dasgupta criticises the fact that most data, such as Google Maps, is owned by private-sector companies. Since it is of great public relevance, it should be in the public domain. These data are requested by municipal authorities and also by institutions such as the World Bank, GIZ or KfW.

One goal is, for example, to support informal bus operators in setting up a formal company. An interesting example of how data can be used for improvement is WhereIsMyTransport. The US company captures routes, schedules and types of informal data in African and Latin American cities.

Dasgupta advocates creativity in the face of changing demand and sees the prospects for new mobility as positive: "Technological change is possible – even in a very short time".

Fifty metro lines per year

The need for transport infrastructure in developing countries and emerging markets is huge. Without engagement of the private sector, this need cannot be met. One reason is that governments lack the money, another is that private companies have indispensable expertise and experience. They want investments to be safe, however, so private-public partnerships (PPPs) can be a solution.

In Asia alone, up to \$100 billion are needed annually for public transport infrastructure, according to James Leather of the Asian Development Bank (ADB). Some 50 metro lines must be built each year to meet the needs of ever more city dwellers, he estimates: "The need for private-sector investment is huge." One positive example he mentioned at the KfW's Development Finance Forum in Frankfurt in December is Bangkok. The Thai capital

used PPPs to build mass transit trains and toll roads. "The government would not have done it alone," Leather says.

Latin America needs more and better transport infrastructure too. "In Brazil, we have to more than double it," says Anie Amicci of the Brazilian development bank BNDES. Private-sector contributions are essential, she says, but admits that "the environment for investing is difficult". The tram in Rio de Janeiro (see KfW supplement in D+C/E+Z print issue 2018/09-10) is a best practice PPP. Nonetheless, it is difficult to replicate, because the private sector wants more guarantees than municipal authorities offer so far. She sees big challenges that the government must rise to. In her eyes, an appropriate regulatory framework is needed: "We are establishing transport authorities, at the national and metropolitan level, that have a good

overview of the system." They will have their work cut out for them, as informal transport needs to be formalised. Moreover, a coherent system of fare prices is needed for all modes of transport. Another issue is that "the urban mobility sector needs subsidies, because fares will never cover the costs in Brazil."

Reinhard Fitz works for Doppelmayr, an Austrian cable-car constructor, which built local-transport infrastructure in Bolivia's capital La Paz and other agglomerations in mountain areas. In his eyes, "a strong partnership" is key for investors. "We need reliable cooperation; the government should be involved from the beginning," he says. His company wants warrants that subsidies will flow should revenues drop below a certain level. On the other hand, the partners from the public and private sectors should share revenues if they top a certain level. He also points out that the pre-project phases are costly and wants state agencies to invest in fea-

sibility studies and related matters.

His view is not commonly shared in Latin America, as Paloma Ruiz of the Latin American development bank Corporación Andina de Fomento (CAF) reports: "Urban transport is not seen as a public service." Therefore, subsidies are the exception in Latin America. Ruiz calls for a change of mind: "The car is not the queen anymore", and "improving transportation is part of improving the quality of life". In Lima, for instance, where there is almost no mass transport, the middle and upper classes are increasingly forced to use bicycles, she says, because congestion is terrible and bikes are faster than cars. Ruiz demands to improve the conditions for pedestrians. Moreover, she calls for metro lines and BRT (bus rapid transit) systems (see Nicholas Hollmann in D+C/E+Z e-Paper 2016/10, focus section) in big cities. "It is a big development challenge," she concludes.

Katja Dombrowski

ECONOMIC DOCTRINES

Mutual obligations

Paul Collier's new book "The future of capitalism" is a response to the twin shocks of the Brexit referendum and Donald Trump's election in 2016. The Oxford economist assesses why masses of voters felt disenfranchised and what can be done to improve social inclusion.

By Hans Dembowski

The economist states that his profession must bear some of the blame for the rise of right-wing populists. Collier argues that market-radical doctrines, which gained traction in the past four decades, have distorted social reality. It is plainly not true that the public good results from every individual acting in a spirit of radical selfishness.

must also provide staff with a sense of purpose, and take into account the needs and interests of various stakeholders. Legislation should force it to do so. By contrast, market-orthodox policies have widened social disparities.

According to the scholar, economists owe the public three "mea culpas" for having promoted overly simplified policies:

- While it is correct that international trade increases the aggregate prosperity of all countries concerned, it also makes a considerable number of people worse off. The gains of trade must be redistributed fairly, with winners compensating losers.
- While it is true that excessive regulation is harmful, too little regulation is destructive too. For example, multinational

Public policy has not risen to these challenges, Collier writes. More generally speaking, he wants societies to be guided by three kinds of obligations:

- Those in desperate need deserve to be rescued.
- Everyone benefits from systems of mutual obligations.
- Those systems can and should be expanded in a spirit of enlightened self-interest.

The scholar applies these principles to international relations too. For instance, the global community has established agencies like the World Food Programme or the World Health Organization, which basically serve the duties of rescue. The UN Security Council safeguards peace in line with mutual obligations, but can only be effective if permanent members do not obstruct joint action. Collier warns, however, that some international organisations have become "quasi-imperial bodies". For example, the International Monetary Fund (IMF) was initially meant to be a kind mutual bank, but the advanced economies turned it to an agency that imposed their policy choices on countries in need of support (see focus section in D+C/E+Z e-Paper 2018/08).

Collier's assessment of European affairs is similar. "The EU is no longer unambiguously a mutually supportive club", he writes, "it has increasingly become powerful countries telling other countries what to do." The inner group, according to the scholar, is currently at loggerheads with eastern members, southern members and Britain.

Collier wants capitalism to be regulated well. Markets generate prosperity, which can and should be shared in a sense of mutual obligations. The way for the developing world to fight poverty is to create business environments that attract responsible investors as opposed to mere profiteers.

Collier makes sense. While his short book cannot offer solutions to all pressing problems, it helps to explain why right-wing populists are gaining influence in advanced nations. What it does not address, however, is why people who feel left behind vote for irresponsible politicians who quite obviously will only make matters worse.

BOOK

Collier, P., 2018: *The future of capitalism. Facing the new anxieties*. London: Allen Lane.



Some people still appreciate international rules: anti-Brexit protester in London.

According to Collier, Adam Smith pointed out that altruism does not lead to prosperity and that self-interest is all right. However, the Scottish philosopher also argued that society depends on mutual obligations. Collier insists he would never have endorsed any kind of "greed is good" motto. Promoting such thinking, Collier warns, actually encourages egotistical attitudes.

In the eyes of the prominent development economist, private-sector companies must do more than strive for profits. They

corporations find it easy to avoid taxation because their complex networks of subsidiaries in many countries are not regulated coherently (see focus section in D+C/E+Z e-Paper 2018/01).

- While migration is beneficial for migrants who find better paying jobs abroad and for the companies that employ them, the impacts on low-income families in host countries can be harsh as competition for low-cost housing and decent jobs intensifies.

Fighting false information

More than two thousand Indonesians have been trained in fact-checking information circulating in cyberspace. Efforts to fight disinformation are being stepped up ahead of the presidential elections in April 2019.

The Alliance of Independent Journalists Indonesia (AJI) is an organisation of media workers. It has around 2,000 members. In 2018, AJI cooperated with the Google News Initiative to teach more than 1,000 journalists and almost 1,500 citizens how to fact-check texts, photos and videos distributed on social media platforms (see Alphonse Shiundu in focus section of D+C/E+Z e-Paper 2018/05).

Abdul Manan, the AJI chairman, says that the “circulation of information is increasing and getting faster.” In order to verify online information, “journalistic skills must be upgraded”. Skills must keep up with technological developments, Manan points out.

In many countries, disinformation is particularly common during election

campaigns. Indonesia experienced this during the presidential election in 2014. At that time, hoaxes dominated cyberspace. The fake news were loaded with political, racial and religious overtones.

Unfortunately, some mass media also spread false information, exacerbating the polarisation of society. Manan warns that, unless journalists are able to identify fake news, they are at risk of being manipulated by certain groups for propaganda purposes.

In Indonesia, more than 132 million people (50.4 % of the total population) use the internet. A survey by the Indonesian Internet Service Providers Association (APJII) found out that the majority use the internet to access social media (almost 90 %). However, social media is often a source of disinformation.

The Anti-Defamation Society of Indonesia (Mafindo) is a civil-society organisation that focuses on fact checking. A recent study by Mafindo showed that disinformation increased from July to September 2018. According to Setiaji Eko Nugroho, the Mafindo chairman, almost 59 % of the hoaxes were “politically charged”.

An example of viral disinformation concerns foreign workers from China who are suspected of being the “Red Army” of the Chinese Communist Party. This disinformation was first launched on 20 September, and was distributed 63,000 times on Facebook.

Inggried Dwi Wedhaswary is the editor of the website *kompas.com*. She took fact-checking lessons. She says the training provided by AJI and the Google News Initiative has proved to be very useful, not least because “the public is interested in our verification results”.

LINKS

Alliance of Independent Journalists

Indonesia (AJI):

<https://aji.or.id/>

Anti-Defamation Society of Indonesia

(Mafindo):

<https://turnbackhoax.id/>



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AID

Limits of sovereignty

South-south cooperation is a blurry concept. The term means different things to different people. It would be useful if the international community adopted clearer definitions at the UN summit on the matter in Buenos Aires in March.

By Hans Dembowski

Rather strict rules define what counts as official development assistance (ODA), the aid that established economic powers have pledged to grant developing countries. South-south cooperation is certainly of similar relevance, but as the term is vague, serious comparisons are impossible.

Some people romanticise south-south cooperation. In a South Centre publication (Research Paper 88, November 2018), for example, it was recently declared to be a “non-hierarchical expression of solidarity among equal partners”. The South Centre is a Geneva-based think tank that is owned by countries of the global south. The author considered any kind of exchange among developing countries and emerging markets to be south-south cooperation – from trade to foreign direct investments on to ODA-like infrastructure lending.

Such rhetoric is politically correct, but factually incorrect. Powerful emerging markets like China, India or Brazil cannot be equal partners of least developed countries. Governments that can grant huge loans are obviously more powerful than the clients who need those loans. Moreover, the interests of a commodity-importing manufacturing hub such as China differ from those of commodity exporters. It matters too that the relations of China with India or Brazil are tension-prone.

China is the second most powerful country on earth. Over the past decades, its government has become increasingly assertive internationally. Its Belt and Road Initiative (BRI) is building infrastructure in many Asian, African and European countries, financing roads, harbours, power stations et cetera. Beijing is involved in related projects in Latin America as well.

All countries concerned need more and better infrastructure. Nonetheless, China’s engagement is not beyond criticism. It lacks transparency, for example, so the public has no clear idea of the financial liabilities. Some projects fail, and governments then struggle to repay loans that proved worthless.



Ecuador is struggling to service Chinese loans: President Lenín Moreno with his Chinese counterpart Xi Jinping in Beijing in December 2018.

Pakistan, Sri Lanka and Ecuador are three countries, where current governments are struggling to service the debts that their predecessors have piled up. The previous

leaders, moreover, are controversial, to put it mildly. Charges of corruption and inappropriate governance abound.

Examples like this illustrate the limits of sovereignty. In principle, Beijing claims not to be interfering in other countries’ domestic affairs. In practice, Chinese loans pre-define what scope for action partner governments will have in the future. If projects go well, that scope will increase, but if they fail, it becomes severely restricted. Even if Beijing forgives some of the money, as it occasionally does, problems persist. In Sri Lanka, for example, it took control – for an entire century – of a port it built in exchange for debt relief worth about \$1 billion. That was a deal Sri Lanka’s government could not reject.

It is short-sighted to praise China for not tying aid to conditions as established powers do. Unfortunately, the action of a formally sovereign government is not by definition legitimate. Corrupt leaders tend to incur debts, the impact of which is only felt once they are no longer in office. That is one reason why western powers started to take interest in issues of debtor governance. Too many of their own projects failed.

Conservative pundits in the USA warn that all Chinese loans basically amount to debt traps. That is overblown. China has a role to play in global affairs and should certainly contribute to the achievement of the Sustainable Development Goals. Well considered rules for south-south cooperation would serve that purpose – and they would also serve the enlightened self-interest of China and other rising powers. Indeed, Beijing has shown interest in cooperating more closely with western donor governments on debt sustainability, reconsidering its own approach to aid. In view of huge challenges, the international community needs sober assessments and cooperation that delivers results. The summit in Buenos Aires can help to make that happen.

LINK

Yuefen Li, 2018: Assessment of south-south cooperation and the global narrative on the eve of BAPA+40. Geneva: South Centre.



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ECUADOR

Anger about shift to the right

When Lenin Moreno, the candidate of the ruling centre-left party Alianza País (AP), became the new president of Ecuador in May 2017, Latin America's left breathed a sigh of relief: the region's shift to the right seemed halted, and the continuation of Rafael Correa's centre-left policies assured. That is not how things went.

By Timm Benjamin Schützhofer

Shortly after taking office, Moreno claimed that Correa had left him a legacy of corruption, mismanagement and debt. Conservative opposition parties and the private media willingly endorsed this message. The state media were brought into line too, and the court of auditors became an instrument of political persecution.

From mid-2014, Ecuador was hurt by low oil prices and the strong US dollar, which serves as its legal tender. The government's credibility was dented by corruption scandals, which involved the state-owned oil company Petroecuador and the Brazilian construction giant Odebrecht for example.

When Moreno became president, however, the recession was over. Instead of incrementally correcting Correa's reforms, which would have been necessary, he began to dismantle them. In February 2018, he held a referendum on seven different issues, with some questions on the ballot being

misleading. The referendum did not get the Constitutional Court's required approval. Nonetheless, right-wing parties and business leaders supported Moreno, and so did trade unions and social movements. Correa led the "no" campaign, which won 37% of the votes. His campaign struggled with serious obstacles and only got very little media coverage.

Among other things, the referendum dismissed the Council for Civic Participation and Social Control (CPCCS). Moreno secured a monopoly on proposing members of a transitional council, and the parliament merely approved them. The Transitional Council (CPCCS-T) was given powers far beyond those foreseen by the constitution. Under the leadership of Julio César Trujillo, it has since dismissed officials from the judiciary and state agencies with powers of oversight, appointing interim successors and grabbing further powers. Even judges of the Constitutional Court were ousted. Their positions are still vacant since the selection process for new judges has not yet been concluded. Overall, the lack of judicial independence has led to the instalment of a system for prosecuting political opponents.

The political instrumentalisation of the judiciary started with the trial of Vice President Jorge Glas. He was sentenced to six years in prison without conclusive evi-

dence, mainly on the basis of an Odebrecht manager's testimony. The court used an outdated penal code to pass a harsher sentence and to depose the vice president. Reacting to his arbitrary transfer from Quito to the prison in Latacunga, Glas went on hunger strike for weeks.

Former officials of the Correa administration are increasingly being hounded politically and persecuted legally. Correa is facing a wide variety of charges himself and has fled to Belgium. Interpol recently refused to issue an international arrest warrant against him.

Since the referendum in early 2018, Moreno's rates of approval have been dropping. The people's confidence in state institutions has collapsed. A new low was reached when Vice President Maria Alejandra Vicuña resigned on corruption charges in December. The new vice president is Otto Sonnenholzner, a largely unknown entrepreneur who received the support of Moreno supporters and right wing parties in the legislative.

Moreno was elected as a candidate of the left, but is implementing a neoliberal economic agenda with important concessions to rent-seeking sectors. The shift to the right is illustrated by:

- the appointment of Richard Martínez, previously the president of the employers' association, as minister for economics and finance,
- tax cuts and a tax amnesty for the economic elite and
- the neglect of spending on and investing in social protection.

The president is less and less able to blame Correa for all the problems. Dissatisfaction in the country is growing, and civil society is increasingly backing away from the government. Decline has returned to Ecuador after 10 years of relative political stability and successes in reducing poverty and inequality.



Trade union protests in the Ecuadorian capital Quito at the end of December.



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INADEQUATE FINANCIAL OVERSIGHT

Outraged by court hearings

A financial scandal is rocking Benin. The public is shocked to learn about how ICC Services, an unlicensed and illegal private-sector firm, robbed tens of thousands of people of their savings from 2006 to 2010. The proceedings of the trial are broadcasted live on national radio – and Thomas Boni Yayi, the country's former president, has been mentioned several times.

By Karim Okanla

The hearings are taking place in Porto Novo, Benin's administrative capital. A newly established court known as CRIET is hosting the lawsuit. CRIET stands for "Cour de répression des infractions économiques et du terrorisme" (court to repress business crimes and terrorism).

For several weeks now, the two key defendants, Guy Akplogan and Emile Tegbenou, have been detailing how they spent depositors' savings until their organisation went bankrupt in 2010. The insolvency eventually triggered a government investigation which led to their incarceration.

A Ponzi scheme was at the core of the fraud. ICC Services claimed to collect and invest savings, but in truth the firm used fresh money from new clients to pay interest to previous ones. This kind of pyramid system works so long as the fraudsters man-

age to attract many new clients. The scale of the rip-off is only coming to light now. According to the International Monetary Fund, more than 155 billion CFA francs (the equivalent of about € 240 million) were illegally diverted.

In April 2010, rumours about ICC Service's imminent insolvency became persistent. Akplogan and Tegbenou were arrested on several counts of fraud, illegal operation of a Ponzi scheme and other charges. Warrants were issued to search their houses and offices. Their property and assets, worth tens of billions of CFA francs, were seized. The authorities then moved on to sell the assets, in the hope of reimbursing depositors who felt cheated. The scandal got worse, however, because the government committee in charge of selling the assets could not indicate the exact amount of the money derived from the auctions.

The defrauded depositors are angry. Some of them say that, unless they get at least some of their money back, the trial will be a waste of time. On the other hand, many of them are now focusing their attention on Boni Yayi, who was Benin's president from 2006 to 2016. Indeed, Akplogan and Tegbenou appeared to be good friends with him.

They interacted with the head of state in many ways, including prayer sessions at

his house. Akplogan has bragged about visiting Boni Yayi in his office many times, and sometimes even appearing on government TV on such occasions. "There is no way he can say he didn't know what ICC Services' business was all about," Akplogan said.

According to Tegbenou, ICC Services made many donations in cash and in kind to the president's cousin, to his advisers, his ministers as well as to several civil-society organisations that were close to the ruling party. ICC Services thus gained national status and credibility.

So far, neither Akplogan nor Tegbenou have pleaded guilty to any criminal charge. The case is confusing, with some of the defendants and witnesses making misleading statements. Some tend to say one thing in the morning, only to recant in the afternoon.

Nonetheless, it has become clear that the authorities should have intervened earlier. Apparently, international financial institutions and analysts told government agencies as early as 2007 that the gains ICC Services claimed to be making were impossible to achieve – in legal as well as mathematical terms. Their warnings fell on deaf ears.

Boni Yayi is an economist by profession and a former president of the West African Development Bank, so he must have a solid understanding of the financial sector. Nonetheless, his administration obviously failed to enforce the stringent rules that were spelled out by two important West African institutions:

- the Central Bank of West African States, which is in charge of managing the CFA franc that the region's Francophone countries use, and
- the Inter-Governmental Action Group against Money Laundering in West Africa, a specialised agency of ECOWAS (the Economic Community of West African States).

Boni Yayi's lawyers have accused the court of being more interested in implicating their client than compensating spoiled depositors. As a consequence, they have filed a charge against CRIET before another court. In the eyes of many Beninois, however, Boni Yayi has no excuse.



In the eyes of many Beninois, Thomas Boni Yayi (pictured speaking in Morocco in November 2018) has no excuse.



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Democracy seems unimportant to many supporters of Brazil's President Jair Bolsonaro.

BRAZIL

Blank cheque for the president

Brazilian democracy is in a deep crisis. Only 10% of Brazilians are happy with the kind of democracy they have, and only 30% are even in favour of a democratic state. That explains how Jair Bolsonaro, an admirer of the 1964-1985 dictatorship, managed to be elected president in November.

By Carlos Albuquerque

The figures come from the latest edition of Latinobarómetro, an annual opinion poll conducted in 18 Latin American countries.

According to the pollsters, democracy is in crisis in other parts of Latin America too, but support for it as a form of government is weakest in Brazil. The British magazine *The Economist* attributes that primarily to economic concerns, followed by crime and corruption.

Brazil has recently been struggling with the worst recession for a hundred years. Unemployment is around 13%, and the 7.2% downturn in real gross domestic product in 2015 to 2016 was worse than what happens in a typical recession.

Bolsonaro's victory is seen by many experts as a threat to democracy. However, the Latinobarómetro findings seem more to suggest that the former army captain was elected president precisely because Brazilian democracy is in trouble.

Bolsonaro evidently knew how to play on people's fears in the election campaign. His campaign on social media focused on the three main causes of discontent: economy, crime and corruption. Now, Bolsonaro has appointed "superministers" vested with extended powers to stimulate the economy and combat crime and corruption: Paulo Guedes and Sérgio Moro (see my essay in focus section of D+C/E+Z e-Paper 2019/01).

Bolsonaro's victory was thus no coincidence. He campaigned in an environment where politicians of various stripes had failed on many fronts – in terms of govern-

ance and systemic reform and in areas like security and the economy. There is talk of a “dysfunctional separation of powers” and a “judicialisation of politics”.

Whether the new administration is actually able to resolve the existing conflicts remains to be seen. Referring to far-right Bolsonaro’s flimsy election manifesto, Antônio Carlos Magalhães Neto, mayor of Salvador and president of the conservative DEM party, said: “In these elections, Brazil has handed over the biggest blank cheque in its history. No president has ever received a bigger blank cheque than Bolsonaro.”

There are 513 seats in the Chamber of Deputies, and they are now occupied by representatives of 30 different parties. The opposition Workers’ Party (PT) has 56 seats and Bolsonaro’s PSL 52. The governing PSL thus holds 10% of the Chamber of Deputies and just five percent of the Senate (4 senators). For major projects like a pension reform, however, Bolsonaro needs the support

of three-fifths of the Senate and Chamber of Deputies. That will certainly be a massive challenge.

What is more, the new Cabinet includes surprisingly few representatives of the big parties. Bolsonaro has created a Cabinet based on the two institutions that still enjoy the most confidence among voters: the armed forces and the churches.

According to polls, nearly a third of Brazilians think the risk of a military coup is particularly high at present. This is denied by the commander of the Brazilian army, General Eduardo Villas Bôas, who says the former army captain’s election as president does not mean “the military is back in power”.

Vladimir Safatle, a philosopher and professor at the University of São Paulo, sees mistakes on the left, where the political forces were divided and fought each other during the presidential election. Their in-fighting ultimately helped Bolsonaro to win. Defence of democracy will thus also depend

on the progressive opposition’s ability to regroup.

The re-democratisation of Brazilian society will hinge crucially on relations between the executive and judiciary, says political scientist Sérgio Abranches. He also sees those relations as the ultimate test for the administration and democracy itself. Abranches reckons that Bolsonaro has about a year to show leadership and revive the economy – with governance and stability as the first challenge. Presidents who have frustrated voters in the past suffered an immediate loss of popularity and had problems in Congress. The political scientist recalls that two of them (Fernando Collor and Dilma Rousseff) were removed from office. No easy legacy for Bolsonaro.



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The screenshot shows the Twitter profile for 'D+C' (@forumdc). The profile name is 'Editorial office D+C' and the bio reads: 'D+C Development and Cooperation is a magazine and bi-monthly print magazine on development and international cooperation. Impact: #D+C #D+C #D+C'. The profile has 12,8K tweets, 2,960 followers, 4,667 likes, 186 lists, and 7 websites. A tweet from the account is visible, mentioning 'D+C' and 'World Forum'.

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DEVELOPMENT FINANCE

“This is a marathon”

Since early 2018, Joachim Nagel has been serving as a board member of KfW Group. He is in charge of international affairs, directing the operations of KfW Development Bank, DEG and KfW IPEX-Bank. KfW Development Bank is engaged in governmental development cooperation, DEG promotes private-sector investments in developing countries and emerging markets, and KfW IPEX-Bank finances projects that serve international trade and the European economy in general. In our interview, Nagel assessed global challenges and discussed what he plans to do at KfW.

Joachim Nagel interviewed by Hans Dembowski and Sabine Balk

In regard to the UN Sustainable Development Goals (SDGs), experts speak of an annual financing gap of some \$2.6 trillion. To put things in proportion: Germany's gross domestic product amounts to about \$3.5 trillion. How can the international community close such a huge gap?

One thing is certain: development banks and governments will not be able to provide such huge sums on their own. Therefore, it is very important to mobilise private capital. All countries share an interest in global public goods, such as climate protection, being delivered. Consider India. It has become the world's number three in terms of carbon emissions, and its economy keeps growing. If we do not cooperate with the fast expanding economies like India, there will be problems that affect everyone on earth. It is a global challenge to make the growth trajectory of these countries sustainable. We have to contribute to ensuring that 1.4 billion Indians will not generate the same level of carbon emissions per capita that we do. That would be the road to climate disaster. Of course, the industrialised countries like ours must make contributions at home too.

How do you ensure sustainability?

Well, first of all we must define what sustainable means – to us and to others. Sustainability is about much more than merely

climate protection. My impression, so far, is that people's understanding still diverges considerably. We need to agree on a shared definition at the EU level. On the other hand, we have ideas of our own at KfW, concerning what criteria make finance sustainable. We want to make sustainability measurable. DEG has already developed methods to measure the developmental impact of the companies it finances (see Tribune section in D+C/E+Z e-Paper 2017/10). This approach does not cover all SDGs yet, but it is an important first step towards documenting and communicating our achievements. We are working on defining indicators of that kind for all KfW operations.

At the UN climate summit in Copenhagen in 2009, industrialised nations promised to make an annual \$100 billion available for climate finance in developing countries and emerging markets by 2020. For a long time, it seemed that they would not be able to live up to that pledge. However, last year they actually made about 80% of the sum available. How did they manage to do that?

The private sector accounts for a huge share of the funding, but in my eyes, the picture still is quite mixed. Many companies have become aware of the growth potential in Africa or Asia, and they are pursuing business interests there, concerning renewable energies, for example. But I think much more must happen. We are still not anywhere close to a scenario that we could call satisfying. My impression is that people in emerging markets increasingly understand the urgency of the matter too. They want to live in a clean environment. In China, for example, climate protection has been making fast progress in recent years. But it still is far from enough.

How do you intend to involve more private-sector companies in these efforts?

Well, the Compact with Africa, which was launched in the context of Germany's G20 presidency in 2017, is certainly a worthy initiative. Its goals include partnerships at eye level as well as a more enabling environment for trade and investments. We must encourage private investors to overcome their fears regarding our partner countries. They need assistance there. They ask: How do I get market access? What customers will I find? On the other hand, we need to engage with the partner governments and motivate them



KfW board member Joachim Nagel during a test run on the new metroline in Nagpur, promoted by KfW.

to create a more trustworthy investment climate. It is their responsibility to achieve that. We Germans cannot hold lectures and simply tell partners how to improve things. It doesn't work that way. I find it promising that partner governments are telling us with increasing self-confidence how and where we can assist them. The more that happens, the more private-sector investments will be made. Development, however, is not a 100 meter sprint. This is a marathon. We are in it for the long haul.

But we only have 12 years left for decarbonisation ...

Yes, but 12 years are a time frame we can utilise. We must make efforts and leverage all instruments at our disposal to make best use of those 12 years. The worst thing would be if we gave up. No, we have not lost the fight. I firmly believe that we can master the tasks ahead of us.

What is the role of DEG, which finances private-sector companies, in this context?

DEG is important, but to see things in proportion, you need to consider the figures. Of the around € 24 billion KfW Group provided for investments abroad in 2017, DEG contributed a mere € 1.6 billion. It is actually not easy to find good private-sector projects. I keep telling our partners that they would be well advised to do more to encourage bankable projects. On the other hand, we must certainly check whether we are operating in the way we should be. Developing countries do not always find co-

operation easy. There are lots of different financiers: KfW, the World Bank, the other multilateral development banks, France's AFD and so on. Every bank has its own rules. We are engaged in defining common standards that would reduce the administrative complexity.

Adding to the complexity, the People's Republic of China is now disbursing considerable loans, without, so far, showing much interest in harmonisation. What is your view of the new donors' role?

I don't think it is very problematic. We just discussed the huge sums we need to achieve the SDGs. In my eyes, the new donors are contributors, not competitors. Our partner countries can make sovereign decisions on whether they want Chinese loans or not. Our preconditions differ from Beijing's, and so do our ideas concerning how to implement projects. Moreover, we can prove that our approach has advantages ...

... for instance in regard to sustainability. Critics point out that many of the projects that China finances in other Asian countries as well as in Africa and Latin America are problematic both in environmental and business terms. Should China become more diligent?

I think every country must assess whether projects are sustainable, both in the business and the environmental sense. That is their responsibility, and if they fail, the consequences will be painful. Our job is to discuss these things with our partners and

make them aware of long-term risks. We must do our best to convince them.

What do you prioritise in your capacity as a KfW board member?

We are currently contemplating what development trends to expect until 2025 and in what sense our own business should adapt. We want to accelerate our operations and expect digital technology to prove helpful in this context. For example, we are implementing a first block-chain project in Burkina Faso, with an eye to optimising business processes. Moreover, we think the SDGs are very important, so we want to gear the entire group even more to achieving sustainability. Within KfW Group, international financing will certainly expand. Another thing I am keen on is raising more public awareness for development cooperation. We have to reach out to people and discuss related matters. We want KfW Group to become more transparent, faster and more effective. Finally, we want to take a more holistic approach. In most countries, it is not enough to be involved in a single sector like infrastructure or health care. Projects should have positive impacts on several sectors, and that means that the planners have to consider those sectors right from the start.



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*KfW-Group/About-KfW/Organe-und-Gremien/
Vorstand/Dr.-Joachim-Nagel/*

KfW's foreign portfolio

In 2017, KfW Banking Group's financing for projects abroad amounted to €23.5 billion. That was about one third of the entire KfW portfolio. The lion's share was handled by the KfW Development Bank, which does development cooperation on behalf of Germany's Federal Government. The top priorities are to improve people's prospects for higher standards

of life as well as to protect the climate and the natural environment. In the context of development cooperation, KfW disburses concessional credits as well as grants. The credits often serve to support infrastructure projects in the transport, electricity, health care and agriculture sectors. One example is a metro construction in the Indian city of Nagpur. A new

42-kilometre elevated light rail system is currently being built there with a concessional credit of half a billion euros from KfW Development Bank. It is scheduled to go into operation in 2020 and make an important contribution to environmentally friendly public transport (see my contribution in the Tribune section in D+C/E+Z e-Paper 2019/01).

Two other KfW subsidiaries also involved in international affairs are the DEG (Deutsche Investitions- und Entwick-

lungsgesellschaft) and the IPEX Bank. The DEG promotes private-sector investments in developing countries and emerging markets, cooperating both with German and local companies. Examples include textile producers in Bangladesh (see my contribution in the Tribune section in D+C/E+Z e-Paper 2017/05) and a private hospital in Mozambique.

The IPEX Bank finances projects that specifically facilitate export industries in the medium and long run. (sb)



A kantha bedspread.

HANDICRAFTS

Kantha's eternal beauty

Traditional Bengali embroidery is making a difference in many village women's lives. What was once a simple pastime, is increasingly done for financial rewards. It is empowering the artisans.

By Aditi Roy Ghatak

Over his lifetime, octogenarian Ghazi Dewan (name changed) has had passports of four different countries: British India, India (post 1947), Pakistan (when he moved from Indian West Bengal to Pakistani East Bengal) and finally Bangladesh (when East Bengal became independent). It was the Bangladeshi passport that he used to travel to Kolkata to attend a brilliant exposition on kantha, a traditional handicraft.

The event named “The eye of the needle”, was hosted by the West Bengal Crafts Council last year, showcasing the innate artistry practiced all over the Bengali-speaking region. The unstated message was “crafted by women, strategised for economic freedom”.

Kantha is the ubiquitous “running” stitch that is popular all over the world. Over centuries, Bengali women have taken the kantha craft to levels of unimaginable bril-

liance. It has held Ghazi Dewan in thrall since his youth. He used to watch the deft fingers of his mother and aunts as well as the hired help at home in Kolkata creating pieces of art.

Women of all social strata did kantha work. One generation passed the expertise on to the next. It did not matter on which side of the border they lived. As the progeny picks up the threads from the forbears, the levels of sophistication increase.

SYMBOL OF EMANCIPATION

Today, kantha is a symbol of socio-economic emancipation. Bengal's running stitch has eventually become a runaway success across the subcontinent and internationally. Designers as far away as Milan, Italy's global fashion hub, now work with kantha practitioners.

At their simplest level, kantha designs represent geometric grids. Nature-inspired designs are more difficult to create: popular images include pigeons, owls and parrots. Some artisans depict everyday activities and others opt for religious motives. Some images are inspired by famous poems. Typically,

the pictures are framed by an intricately stitched border.

The kantha tradition is shared by India and Bangladesh. It has been a veritable cultural imprimatur of Bengal for at least three centuries. Some historians trace the tradition back to ancient times. The craft is old but its appeal is modern. Kantha is ethnic and global, elementary and chic, simple and complex.

Stella Kramrisch, the celebrated art historian who died in 1993, was fascinated by the embroidery. She wrote of “beauty out of chaos”. In each motif, she claimed to hear the voices of the craftswomen conveying their life stories. To anyone familiar with the socio-economic circumstances of Bengali villages, kantha is the storytelling of illiterate women who pour out their hearts on fabric.

Some are too poor to purchase thread, so they use strands from old fabrics. Some sell kantha products to supplement their husbands' incomes and feed their children adequately. In this sense, kantha is an example of environmental ethics in contemporary life. The artisans recycle and reuse old and torn fabrics. Their art does not require machines, fuel or electric power. It is carried out in the afternoon sunlight, after the day's field and house work is done.

As a source of women's income, however, kantha is becoming ever more important in rural Bengal. On both sides of the border, women's lives still tend to be tough.

Many are married off early, often still as children. All too often, they are abused by their husbands and exploited by their in-laws. Many suffer malnutrition and even hunger. Innumerable women have turned to the kantha stitch to find some financial freedom and a sense of dignity.

Today, there is a big market for their handicrafts. Some 60,000 kantha embroiderers are registered in West Bengal. Several thousands more do the same work without registration.

The first person to appreciate the commercial potential of kantha was Rabindranath Tagore, the poet who won the 1913 Nobel Prize in Literature (see box below). Later, Mahatma Gandhi made traditional handicrafts a symbol of the freedom struggle and wanted traditional skills to improve village livelihoods. After independence, Indian governments – both at the state and central levels – promoted handicrafts through training, financing and marketing support. In recent decades, urban purchasing power has allowed the market to grow fast, and small private entities have been closely involved in distributing and selling kantha.

Kantha embroidered clothing and accessories are now popular products; a range

of objets d'art was born – from tea cosy covers to table mats. The craft firmly rooted in the culture, tradition and folklore is becoming the fabric of modern business, with urban sophistication increasingly informing the embroidery.

The financial beneficiaries are all women. Kantha production remains a female preserve even in this evolving narrative. Two important changes are that women are getting a greater say in how their incomes are spent and that they are socially much more appreciated than they were in the past.

Kantha is helping to redefine women's roles in Bengali society. "Buy this piece," exhorted Monimala Pramanik, presenting a unique piece that she has just completed at the exhibition in Kolkata, "will pay for my daughter's college." Monimala knows the value of her art and the value of education for daughters. That was virtually unheard of even a decade ago.

Shabnam Ramaswami, born to a conservative Muslim family, is now an accomplished kantha entrepreneur. Her company, Stree Shakti (women's power), engages some 1,500 embroiderers, not only providing them with paid work but also investing in schools

for their children. She says: "Kantha is pricking holes in the worn out social structure."

Indeed, the Jagriti Public School in a village in the Murshidabad District was set up by civil-society activists in 2005 and is still funded entirely with kantha money. This secondary school teaches about 700 girls, many from not-so-affluent families. Classes are held in English. The language of the former colonial power is important for professional careers but typically only taught after Hindi in government schools. The village used to be very traditional but today women move around on their own bicycles and even mopeds.

What was once a woman's pastime is increasingly being done in pursuit of financial returns. The cultural practice of the older women training their progeny continues. The connection between the needle and the mind is as intimate as ever. Kantha's timeless attraction had made Ghazi Dewan travel all the way to Kolkata to celebrate it.



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Poet, polymath, preceptor

Rabindranath Tagore was a genius in more than one way. He is best known for becoming, in 1913, the first non-European person to win the Nobel Prize in Literature but his legacy far exceeds his poetry. His open air university in Santiniketan is amongst his most enduring contributions. Vishwa Bharati, as the university is named, allows a pursuit of academics, arts and craft while celebrating nature in equal measure.

The Tagores realised the potential in Bengal's creativity and did what they could to preserve it, getting the sophisticated ladies in Santiniketan

to promote the craft amongst village women. Rabindranath's father Debendranath Tagore was a prominent reformist Hindu theologian, who spoke out against sati, the tradition of burning widows on their husband's funeral pyre.

The Tagore family was serious about changing mindsets and overall emancipation of society. Art, culture and literature were effectively used to promote inclusive development. Through his music, Rabindranath helped knit the country together to fight against the British colonialists. However, mere political independence would not do.

Economic independence, especially for women, was just as critical.

Promoting handicrafts made sense in this context.

Kantha embroidery held special appeal because it was a gender specific craft. Tagore understood perfectly well that women needed it to earn money. (arg)



Singers celebrating Rabindranath Tagore's legacy in Bangladesh.

Deserts are expanding – for example, in Morocco.



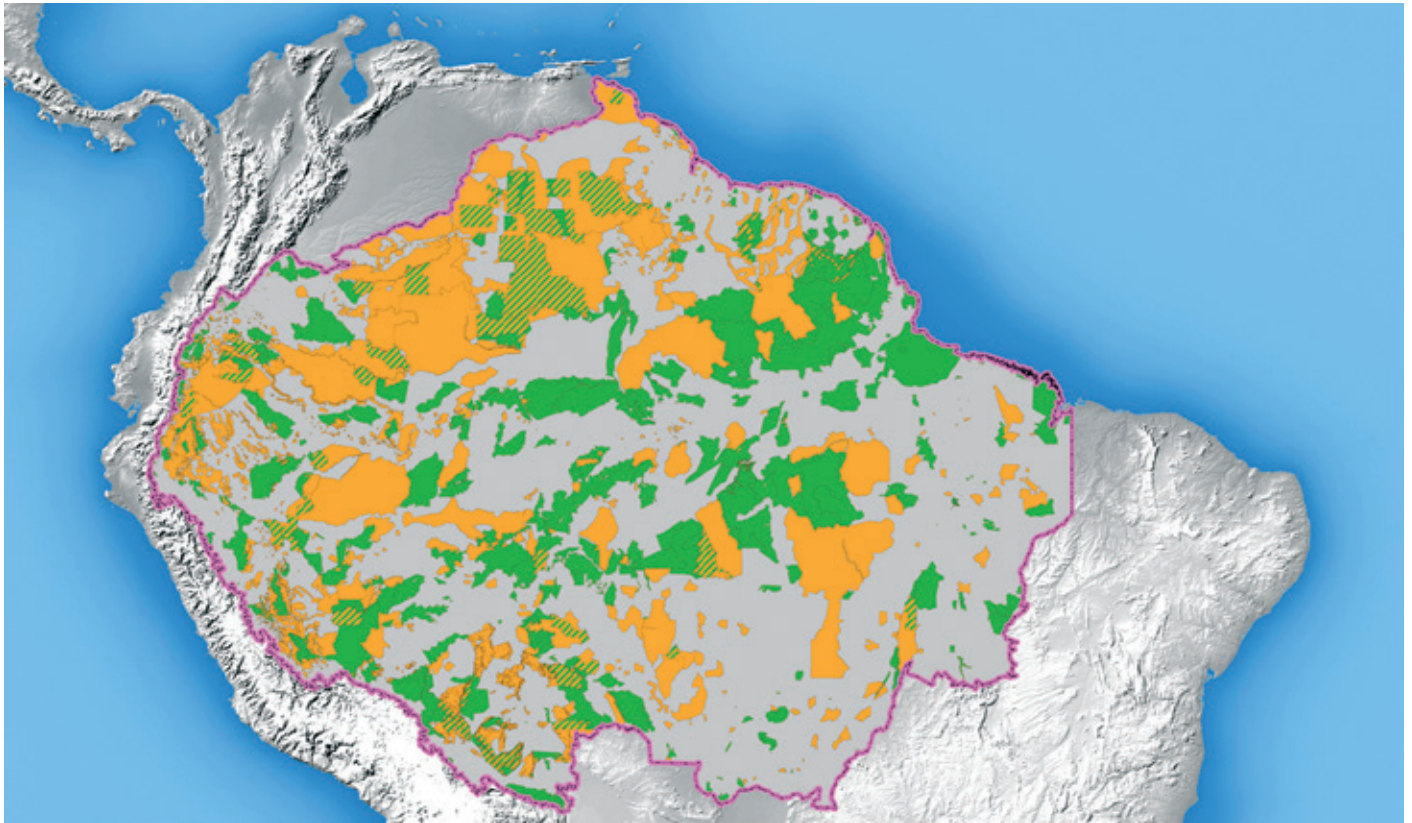
Crisis of global environment

Around the world, ecosystems are exposed to rapid change. Global warming is the most important phenomenon, but not the only one. The destructive trends are reinforcing one another. The international community discussed these matters as early as 1992 at the Earth Summit in Rio de Janeiro. Important conventions were adopted back then. Action is possible and urgently needed

– but it tends to lag far behind the commitments.



This focus section directly relates to several Sustainable Development Goals: SDG 13 (Climate action), SDG 14 (Life below water) and SDG 15 (Life on land). The topic also has a bearing on the entire SDG agenda.



Amazonia: Orange indicates indigenous territories and green other protected nature areas. Sometimes, they overlap.

Indigenous peoples are key stakeholders

Though humankind cannot afford to lose the Amazonian forests, deforestation is progressing fast. Research shows that officially recognized indigenous territories serve as protective barriers. National governments must promote this cause. Recent trends of backing away from environmental protection, for example in Brazil, will only cause massive harm at the continental and even global level.

By Carmen Josse

For millennia, the indigenous peoples of the Amazon have de facto been the guardians of large tropical forest areas. Defined according to biogeographic criteria, the Amazon region has a size of almost 7 million square kilometres. This is the greatest forest area

remaining on earth. More than a third (37%) of it belongs to more than 3,344 formally acknowledged Indigenous Territories. They are home to 375 different ethnic groups.

RAISG is a network of civil-society organisations from several Latin American countries. The abbreviation stands for “Amazonian Socio-environmental Georeferenced Information Network” (Red Amazónica de Información Socioambiental Georreferenciada). It uses every available method, including high-tech options, to document the socio-environmental state of the Amazon basin.

RAISG research shows that, until 2015, only eight percent of Amazonian deforestation occurred in the forests inhabited by indigenous peoples. By contrast, 88% of

all deforestation happened in the less than 50% of the Amazon area that is neither indigenous territory nor protected area. This pattern was consistent across all countries of the region.

In recent years, other studies have provided similar evidence. Conversion rates tend to be much lower where forests are managed by indigenous peoples and local communities (IPLCs). IPLCs therefore help to stem carbon emissions that are related to land-use, land-use change and forestry (LULUCF). Globally, emissions from the LULUCF sector amount to about eight percent of the total. In Amazonian countries, however, the share is much higher, with LULUCF accounting for 24% to 50% of national carbon emissions.

Researchers have found out that indigenous territories indeed serve as deforestation barriers. Moreover, governance regimes make a difference. In Brazil, a study assessed different forest parcels that were under comparable threat of deforestation. The result was that those in Indigenous Territories and other protected areas were less likely to be destroyed. The deforestation

pressures actually tended to be strongest in indigenous lands, but the actual deforestation rates were lowest there.

It is sometimes argued that many IPLC managed forests are in remote areas where deforestation is less likely. This perception is not accurate. At least it does not reflect the Brazilian experience in the years 2001 to 2013. A recent study showed that deforestation rates in IPLC forests stayed 49% to 88% below those of unprotected forest land that is comparable in terms of remoteness and other conditions. Similar patterns were evident in Bolivia and Colombia, but could not be discerned in Ecuador.

Lower rates of deforestation and degradation mean that carbon emissions are kept lower too. Vast amounts of carbon are stored in forest biomass, and it is crucial to keep it there. The Amazon region's Indig-

enous Territories make important contributions to reducing countries' carbon emissions.

The Indigenous Territories only account for about one third of the total forest area, but they store nearly one third of the region's aboveground carbon. That makes them relevant for the success of the Paris Agreement on climate change. In its context, the countries of the Amazon basin have committed to making nationally determined contributions (NDCs) to mitigation. They would be unable to fulfil them if the carbon sinks that IPLCs manage and protect were to experience similar deforestation rates as unprotected areas do. That would be a disaster in other regards as well. The regional climate would change with considerable impacts on the continent's rainfall patterns. Desertification may get worse, and

biodiversity would definitely suffer dramatically (see article by Stephan Opitz, p. 30).

TRADITIONAL KNOWLEDGE

Historically, the livelihoods of indigenous Amazonian peoples have depended directly on the forest. Its resources served all vital purposes, including food, shelter, water, fibre, fuel and medicines. Accordingly, the cultures of the many different ethnic groups are inextricably linked to the local environments where they live. The territory defines their identity. Their cosmology is based on relationships their ancestors forged with the forces of nature. That understanding was passed down from generation to generation. In the process, the traditional knowledge evolved that sustained communities for millennia, both in material and spiritual terms.

A more holistic approach

Traditional knowledge is relevant for protecting both biodiversity and the climate. A new UN body will promote the cause.

Indigenous peoples do not even account for five percent of world's population, according to the UN, but they protect 80% of global biodiversity. They also have a role to play in climate protection (see main story), so it is good news that a new platform has been set up to represent their concerns in the context of the UN Framework Convention on Climate Change (UNFCCC). It is called the Local Communities and Indigenous Peoples (LCIP) Platform and was created four years ago.

Selection processes are currently underway to nominate 14 members to an LCIP working group. Their job will be to draft a plan for the full implementation of the LCIP, based

on equality and partnership. Half of the group will consist of representatives of indigenous peoples, and the other half will be government officials. Ghazali Ohorella, a member of the Indigenous Global Caucus, expects the group's first meeting to take place in June.

"Full, effective, direct and meaningful input from indigenous peoples will likely result in better policies as it would ensure sustainable strategies and increase the level of expertise," Ohorella says. "The platform is more than a learning and knowledge-sharing platform." It will be empowered to cooperate with other UNFCCC entities as well as institutions beyond it.

Terence Hay-Edie is an officer of the UN Development Programme who cooperates with indigenous peoples. He finds it promising that the LCIP has been set up and is now



Indigenous participants from Brazil attending workshop at UN climate summit in Katowice late last year.

making progress fast. He has been observing conferences of parties both in the context of the UNFCCC and the Convention of Biological Diversity. Hay-Edie appreciates that the role of grassroots communities is increasingly accepted in both contexts and adds:

"Most indigenous cosmologies do not make these ar-

tificial distinctions and call for a more holistic approach."



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Today, however, this balance is at risk. Western culture is encroaching on the Amazon region. Its influence on IPLCs and their territories is growing. RAISG data shows that, in 2018, 16,900 kilometres of roads cut through them. Moreover, concessions for mining and oil drilling have either been granted already or are likely to be granted soon for 470,000 square kilometres of IPLC forest. Unfortunately, governments are

to be addressed is that the local communities need to be rewarded too.

In 2011, indigenous groups from the Amazon region joined forces and proposed an alternative to REDD+. It is called Amazon Indigenous REDD+ (RIA for the Spanish translation). RIA was conceived as a strategy to contribute to the mitigation of – and adaptation to – climate change, for instance by building resilience through the

cetera. Large-scale infrastructure for hydro-power and transportation matter too. These issues must be tackled.

The sad truth is that national governments are not really responding to this urgent need. Jair Bolsonaro, Brazil’s new president, has expressed his hostility to the very idea of environmental protection (for more on Brazil’s crisis of democracy, read Carlos Albuquerque’s essay on p. 11 in the Tribune section of this e-Paper). His disrespect for the rights of minorities and, indeed, human rights are worrisome too. Latin America certainly does not need any further empowerment of the businesses that cause deforestation. Letting them do will only lead to disaster.

On the upside, the bearing of indigenous peoples from the Amazon and other world regions on international negotiations has been growing. For example, the Local Communities and Indigenous Peoples Platform will serve as bridge that links the UN Framework Convention on Climate Change (UNFCCC) to local communities and their traditional knowledge. The Platform will promote the exchange of experiences and sharing of best practices (see box on previous page).

Scientists point out that reaching the Paris Agreement’s temperature goals will only be possible if forest-based strategies are adopted. Such approaches are cost-effective ways to prevent harm. Afforestation, eco-friendly agriculture and sustainable forest management are needed. Measures must be scaled up and funded adequately. Given the vital role of Amazonian IPLCs and their current poverty, they must be involved in decision-making and should benefit from relevant investments.

LINK

RAISG:

<https://www.amazoniasocioambiental.org/en/>



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Pink dolphins live in the Amazon.

prone to grant such concessions regardless of an area’s legal status, so other protected areas are affected too.

Indigenous leaders are aware of the importance of the forests. They express their communities’ concerns, demanding appropriate national policies and safeguards. Moreover, they are disappointed in REDD+. The acronym stands for “reducing emissions from deforestation and forest degradation and enhancing carbon sinks in developing countries”. It is an initiative taken at the UN climate summit in 2005. The idea was that forest-rich countries would get rewards for forest protection, provided that the results were measurable. REDD+ proved less effective than hoped. Implementation is difficult for several reasons. One problem

conservation and holistic management of their territories. RIA emphasises traditional knowledge because it appreciates the value of standing forests and the ecosystem services they deliver. At the same time, the approach is supposed to promote the welfare, self-determination and future welfare of IPLCs.

Recognition of collective land rights is an essential part of the RIA proposal, and so is the demand for the enactment of national development policies that are consistent with countries’ commitments to climate protection. Tangible steps must be taken towards better control and decisive reduction of deforestation and forest degradation. The drivers of environmental harm include the agroindustry, grazing, timber, mining et-

Involve the local community

In Morocco, the High Atlas Foundation is running a pro-poor agro-forestry programme that improves people's livelihoods as well as the health of the natural environment. The key to success is the participatory approach that empowers marginalised villagers to take their fate into their own hands.

By Kerstin Opfer

Natural landscapes are deteriorating worldwide. Approximately 30% of the world's natural forests are expected to be lost by the end of this century. Furthermore, 25% of all land on earth is currently threatened by desertification. The implications are severe soil erosion, reduced agricultural productivity, food insecurity and the dwindling of biodiversity.

Morocco is no exception. Over 90% of Morocco's historical forest cover has already been destroyed. The reasons are overexploitation, overgrazing and the worsening climate. The disastrous extent of Morocco's environmental degradation puts at risk the

country's flora and fauna. Over 223 plant and animal species in Morocco are endangered, according to the Red List of the International Union for the Conservation of Nature (IUCN), the umbrella organisation of government agencies and non-governmental organisations.

Severe erosion, water run-off, floods and soil depletion have harsh impacts on human well-being too. That is particularly true in the Atlas region, where communities' livelihoods depend on natural resources. The people concerned are socially marginalised and live in systemic poverty.

In this stressful scenario, environmental conservation is an important development issue. The political objective must be to mitigate all destructive trends. Accordingly, a wide range of projects has been started to provide communities with the twin goals of giving them control over their natural resources and generating socioeconomic benefits. However, it can be challenging to tackle environmental and societal issues at once. Many projects have



failed to achieve either their conservation or their developmental goals – and some have not achieved either.

It is therefore essential to identify effective practices and share the lessons learned. The High Atlas Foundation (HAF), a non-profit organisation that is registered in Morocco and the USA, runs a pro-poor agroforestry programme in the North African country. On behalf of the HAF, I have assessed it, using a new methodology that allowed me to analyse the links between conservation management and community interventions as well as what they mean in terms of poverty reduction and biodiversity improvements.

My work included the desk-based review of relevant documents, 34 interviews plus discussions with six focus groups that involved seven staff members and 26 beneficiaries. The data was compiled in a booklet, upon which a group of independent professionals relied to score the performance of the programme, determine which practices were successful, identify gaps and give recommendations for further improvement. The evaluation revealed that the programme was highly effective and should serve as an international model.

Since 2003, HAF has planted 3.6 million seeds and trees. As strong increase occurred in 2018. The reason was that four new nurseries were established in partnership with Morocco's High Commission of Water and Forests and Ecosia, a social business based in Berlin.

One successful intervention was to distribute fruit trees. As a result, subsistence farms that cultivated barley and corn started to sell surplus organic fruit, considerably improving peoples livelihoods. There are environmental benefits too as the trees reduce both soil erosion and flooding. The cultivation of fruit trees thus helps to preserve the natural environment.



Farmer in his cherry and apple plantation in the Tifnoute Valley, Taroudant.

Soil quality and plant regeneration are very important, given that erosion and desertification are imminent threats, which are exacerbated by farming of staple food and cattle herding. One farmer observed: “Previously, we only grew barley and corn, and the soil deteriorated fast, so erosion took away our land. Now the trees prevent this from happening. We also have more bees because bees love the blossoms.”

THE DIFFERENCE CHERRY TREES MAKE

In the Tifnoute Valley of the Taroudant province, for example, the foundation distributed 10 to 100 cherry trees per farmer. Skills training was offered accordingly. The annual revenue per tree amounts to the equivalent of \$21 to \$105, depending on water availability, harshness of winters and other factors. On average, the revenues from cherry sales are ten times as much as farmers were able to earn from barley and corn.

All in all, HAF was able to improve the incomes of approximately 10,000 households. One farmer stated: “Before we cultivated cherries, we had to work hard to grow corn and barley. If I counted everything together and sold all the barley and corn without keeping anything for myself, I only gained \$53 a year. A few years after the foundation gave me trees I was able to sell the fruits for \$528 to \$1,055 depending on how

much my trees produced. With the income generated, I improved my family’s life.”

Higher incomes enabled communities to reinvest some of the money in communal infrastructure, including schools, health facilities or youth enterprises. Key to this success was the foundation’s holistic strategy to meaningfully engage the local communities. Villagers are involved in every single step. They are entrusted with the authority to make decisions and increasingly become agents of change.

Involving the people ensures early community buy-in, prevents programmes from being driven by external interests and ensures a thorough understanding of the local context. Furthermore, HAF addresses poverty from all angles by running workshops to empower women, train skills, promote literacy et cetera. HAF acknowledges that poverty does not simply mean shortfalls of income or food. Other symptoms include the lack of access to education and opportunities in general. Empowerment is therefore the means to reduce inequality.

One woman said: “This tree and plant nursery changed our lives. Before, we were expected to stay at home. Thanks to the help of the foundation we are able to work in the nursery, learn new skills, earn our own money and help to provide for our families. This makes our life much easier, and men are starting to respect us. We are very proud of what we do even when we encounter prob-

lems. We learned how to face the problems together, search for solutions and keep going.”

The HAF has proven that meaningful community engagement through participatory methods is essential to sustainable, long-term success. Community engagement should never be an afterthought or rhetorical, but should be fundamentally integrated into every conservation and development project. The HAF is happy to share information and experience with interested parties internationally.

A farmer concluded: “I have great expectations for the future. The trees we planted will be good for the environment, prevent soil erosion, and the project will benefit the communities and the associations in this area.”

LINK

High Atlas Foundation:

<http://www.highatlasfoundation.org>



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Savè chainsaw massacre

Savè is a small town in south eastern Benin. With its rolling hills and lush vegetation, it offers gorgeous panoramic views. The place could become a tourist attraction – if it was not ravaged by deforestation.

By Karim Okanla

The forest surrounding Savè is under attack. Wild logging and uncontrolled cattle grazing are common. The natural resources on which the livelihoods of the local people used to depend are being depleted fast. The

town is located about 250 kilometres north of Benin’s commercial capital, Cotonou and has a population of around 150,000 inhabitants.

A few decades ago, the residents of Savè only used hatchets and machetes to clear the bushes and collect firewood. In the meantime, loggers with chain saws have moved in. Rare century-old trees are being felled and quickly cut into planks. The timber is loaded onto commercial trucks and brought to Cotonou, where joiners’ workshops pay high prices for the commodity.

The felling and incineration of shrubs for charcoal production accelerates deforestation.

Depressingly, a growing number of people in Savè see illegal wood cutting as a way to get rich quick. The law on logging is hardly ever enforced. Even when illegal loggers are caught red-handed occasionally, they manage to bribe their way to impunity.

Dieudonné N. is a trader in wood products. He brags about the substantial amount of money that he pockets every year, but seems unaware of the negative effects of deforestation. He says that he employs many labourers to cut wood in the dry season: “I order them to fell the biggest trees they can spot and cut them into planks.” By the month of August, the planks are dry enough to be ferried to his customers. He claims to



Loggers with chainsaws have moved in.

send about 200 truckloads of timber to Cotonou per year.

Moussa M. is also deeply involved in the illegal business – and proud of the money he earns that way. “Logging is far more rewarding than farming,” he says. “The only thing I’m worried about is that there are too many people in this business now, so profits have been dropping since 2014.”

POLITICIANS’ PROTECTION

But not everybody is happy about the ongoing deforestation. Daniel B. is a 73-years old peasant farmer who has spent his life in an underprivileged neighbourhood of Savè. He is angry. “Our trees, which are part of our cultural heritage, are being felled, and no one seems to care,” he laments. He insists that logging is illegal. According to him, the culprits are undaunted and “even brag about the protection that they get from politicians in positions of power and officers of public administration”.

In theory, illegal tree cutting leads to hefty fines, up to the equivalent of € 900 and even jail terms of up to two years. The loot should be confiscated, and so should the tools used. According to a law passed in 1993, anyone who wants to exploit forest resources needs a licence. In real life, the law is hardly enforced.

Savè is already feeling the negative impacts. When large swaths of the forest are cleared, herders move in and their animals finish off whatever small vegetation is left. Grazing cattle, goats and sheep destroy the fields of small farms, moreover.

Many people are already feeling the pinch because they can no longer gather

the forest resources that generations of rural people traditionally depended on. Soil erosion is a huge problem. Vast expanses of land which were cleared by loggers and peasant farmers are now laid bare. Their nutrients are washed away after the heavy downpours that Savè experiences in the rainy season. Landslides and floods have become common occurrences.

Farmers, moreover, are prone to expanding their fields by setting the bush ablaze before the planting season. The cultivation of yam, which is the main staple food in Savè, requires vast expanses of land. Population growth is a driver of deforestation. Meanwhile, the harvests have lost in quality – and quantity. Many years back, yams grown in Savè carried a distinctive label: they were bigger in size and very sweet in taste. That is no longer so. In view of environmental degradation, ever more people migrate to neighbouring Nigeria in search of greener pastures.

According to the UN Food and Agriculture Organization (FAO), Benin’s forests are threatened by bush fires, overgrazing, illegal logging and extensive farming techniques. Unfortunately, many people in Savè still do not understand the danger. Farmers are focused on the next harvest and do not consider long term impacts. Compounding environmental problems, some use chemical fertilisers and pesticides. The poison is detrimental to the buzzing forest life.

Deforestation in Savè is linked to global dynamics. Africa Agri Tech, for example, is a Chinese company. According to reliable sources, it has acquired forest land where it is now growing tomatoes, chili and onions. More than two thirds of the yield is appar-

ently exported to China, while the rest is sent to Nigeria.

LOST DIVERSITY

According to research findings, deforestation is already having a negative impact on the fauna in Savè. Many animals that populated the forest in the past have disappeared entirely or at least become extremely rare. That is true of wild rabbits, squirrels and delicacies like the big black snails. The songs of various bird species are no longer heard.

The diversity of vegetation is declining too. Many people lament the disappearance of wild cashew nuts and a tree called “cosso”, which was used to make long-lasting, affordable furniture. It is also becoming ever harder to find medicinal herbs, roots and saps. In the past, people relied on traditional medicine for standard ailments, but now they increasingly depend on expensive drugs from pharmacies.

Some local non-governmental organisations and community radio stations have started awareness raising campaigns to stem the curse of deforestation. They promote measures such as massive tree planting to replenish the forest. They are also in favour of better training for the workers of the National Forest Service. They want them to become committed custodians of the region’s natural resources and enforce environmental laws stringently.



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In August 2017, after three days of intense rainfall, a slope in the regent area of Freetown collapsed, causing a major landslide.

The need for holistic action

Freetown’s urban population has expanded quickly and spontaneously. After devastating floods in 2017, the link between natural disasters and urban planning can no longer be ignored.

By Carolyn Williams-Gerdes

Sierra Leone has faced a share of obstacles on its path toward development. While resources were absorbed by a lengthy civil war and a two-year battle with Ebola, masses pursued their hope of a better life in the nation’s capital Freetown. Homes and even entire communities were built by hand, on pieces of land where there had once been nothing but pristine forest.

Then, on 14 August 2017, days of heavy rainfall and flooding in the western area of Freetown culminated in a massive landslide, swallowing people and homes in a thick bath of mud and debris. Over one thousand people were declared dead or missing. The World Bank estimates that thousands more were displaced – many left with nothing but the clothes they were wearing.

Neither flooding nor landslides are new phenomena in Sierra Leone, but a humanitarian catastrophe of such epic proportion drew international attention. Already in the country, numerous international organisations acted immediately, providing basic supplies and services – from food and shelter to personal counselling and mobile phones. Among others, Action Against Hunger, CARE International, GOAL, Handicap International, Muslim Aid, Plan International, Red Cross, Save the Children, Streetchild, Trocaire, UK Aid, World Vision and various UN agencies were involved.

The tragedy, however, extended well beyond the loss of capital. The situation reflected a complex system of mutually-reinforcing causes and consequences – some of which had been in the making long before the disaster – and would require a holistic long-term response.

The government of Sierra Leone commissioned a national recovery strategy, emphasising the need for an approach that would not only address existing problems, but would also anticipate future challenges.

Within days, experts procured by the UN Development Programme (UNDP) and the World Bank were arriving in Freetown to assess and inform this effort.

REGULATORY STRUCTURE

It is not quite accurate to refer to a landslide as a disaster. Muhibuddin Usamah, a landslide specialist, points out: “Landslides are a natural phenomenon.” Disasters occur when people are living in their path.

Homes in Freetown are situated on steep slopes, on top of highly weathered rocks, many of which are prone to erosion. As the urban population has grown, forest has been removed and soil has been cut away vertically to make the flat surfaces on which informal settlements are established. The natural counter weight that would normally hold existing soil in place was inadvertently removed, making houses more vulnerable. At the same time, excessive charcoal consumption has resulted in deforestation and increased erosion.

Usamah’s assessment is: “Many people had specifically chosen to live in the areas that were geographically vulnerable. For their immediate survival, they wanted to be close to water and firewood, social services and commercial centres. They perceived that they were making wise choices – and

there was nothing preventing them from doing so.”

Usamah worked closely with the national Environment Protection Agency (EPA), identifying the root causes of the landslide as a basis for what he calls “risk-informed planning.” Evidence-based laws and policies can better guide both municipal and community decisionmakers, resulting in safer living practices.

BEHAVIOURAL CHANGE

In the meantime, there are many things that communities can do right away to reduce their exposure to health and hazard risks and also improve the general standard of living.

As the local and national authorities acknowledge, urban flooding has been correlated to the combination of heavy and prolonged rainfall and poor drainage systems in Freetown. According to Thorsten Kallnischkies, a waste management expert, drains between houses are frequently blocked – not only by soil and rock, but also by household and commercial waste. Because these drains cannot accommodate intense rainfall, water accumulates until there is enough force to propel massive rocks. “Imagine a rock as big as a Toyota Landcruiser, travelling at the speed of 10 kilometres an hour, hitting houses and people.”

Another problem was that flooding had washed faeces and other waste into rivers, streams and wells. People were literally bathing in – and drinking – contaminated water. As Kallnischkies points out, “even moderate rain can carry waste into open water sources.”

So things as basic as “cleaning up” can make a big difference – reducing the possibility of flooding while also addressing its consequences. To this end, Kallnischkies helped to design a UNDP-funded project in which affected communities were engaged in their own recovery and reconstruction processes. Their very first tasks included clearing rocks and waste from rivers and streams, reconstructing damaged drains and building cement walls around drinking water wells.

Getaneh Gebre, the project coordinator, explains that it is not only a matter of training people to carry out these activities. “We wanted participants to see themselves as part of a larger picture – to understand



natural causes and effects, to understand the impact of human action on the environment, and to use that knowledge to affect positive outcomes.”

This holistic approach was reflected in other activities – like cutting straight, angular slopes into terraces to grow root vegetables. Not only does this reduce slope erosion and strengthen soil, it also provides communities with food and incomes. Household compost can be used to provide nutrients to crops and, because the organic material in compost is moisture-absorbent, the flow of water into rivers and streams will be further reduced.

The most enthusiastic participants in the group were identified and provided with further training, equipping them to become leaders and to train other working groups. The idea was to create a system of information and skill transfer that could be sustained even after the project had been concluded – and ultimately, to affect life-saving behavior change.

URBAN INFRASTRUCTURE

While floods may have brought it to attention, managing increasing volumes of solid waste is a long-term challenge. On average, Freetown’s 1.5 million inhabitants produce 0.5 kilogrammes of solid waste per head and day – an approximate total of 1.1 cubic metres per year. Of this, 20 percent is collected, but the remaining 80 percent tends to be disposed of in drains, directly into the sea or burned.

Vast and overflowing, the two inner-city dumpsites serve as a breeding ground for flies, rats and mosquitos. Toxic leachate contaminates groundwater, surface water and coastal ocean water. According to the Freetown City Council, seven out of the ten leading diseases reported to hospitals in Freetown can be directly or indirectly related to pollution. Cholera outbreaks have

been concentrated among populations living in close proximity; and open burning of waste contributes to the kind of danger that Kallnischkies compares to continuous inhaling of cigarette smoke.

Compostable or recyclable waste is proportionately very high in Freetown, comprising an estimated 80 to 90 percent of the total, as Kallnischkies reports. This means that relatively simple things like community composting have the potential to divert the majority of municipal waste.

Formal recycling operations are also relatively new, and UNDP has initiated a project in which some communities are using discarded plastic to produce handbags, computer bags, hats and even floor tiles – reducing the volume of waste while also generating household income.

However, the limitations of low-budget, community-owned initiatives must be acknowledged. The volume of waste that has accumulated in Freetown reflects decades of neglect and is set to worsen. What has been a matter of public health must now be recognised as a national safety issue. There is no small-scale solution.

Sierra Leone will need to develop a national waste-management infrastructure: a regulated system with staff, vehicles and oversight. It will also have to deal with the mountains of waste that already exist. Pits will need to be sealed off and new deposit sites located. This is estimated to cost several tens of millions of dollars which, to many donors, is prohibitive.

“But you can’t just fix one point,” insists Kallnischkies, “because whatever you address will fail under the pressure of the other elements.” And nowhere is this more apparent than in flood response: enthusiasm has been overwhelming and initiatives admirable. But long-term issues stay buried.



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Nations and was a member of the emergency response team, coordinated by the UN Development Programme, following the 2017 landslide. The views expressed in this article are those of the author and do not necessarily represent those of the UN, the UNDP or UN member states.

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In touch with nature

The biodiversity of agriculture is being eroded internationally because of high-tech farming. The trend exacerbates environmental hazards and marginalises smallholder farmers who cannot afford expensive inputs. Organic agriculture with traditional landraces is a sustainable alternative. It is promoted by Sahaja Samrudha, a non-governmental farmers organisation in the south Indian state of Karnataka, as Anitha Reddy, the organisation's communications director, elaborates.

Anitha Reddy interviewed by Sabine Balk

Why did your organisation create a community seed bank?

Seed banks are similar to banks or libraries. We borrow something and return it later. In our case, farmers borrow seeds and return the double quantity after a good harvest. In our region in the south Indian state of Karnataka, we created a community seed bank because the traditional seeds had disappeared. Farmers here were only using hybrid seeds. Cultivating them did not meet our objective of agro-biodiversity conservation. Hybrid seeds require a huge and costly input of chemical fertilisers, pesticides and irrigation water. Many smallholder farmers cannot afford this kind of capital-intensive cultivation. In our region, land holdings tend to be small, in the range of 0.5 to five acres. Water shortages are common. To make the most

of such small farms, we wanted to revive the traditional crop diversity of landraces.

What are the advantages from the farmers' perspective?

There are several advantages:

- Farmers dependency on seed-producing corporations is reduced. They do not have to buy new seed every year, but can use a share of their own harvest in the next planting season.
- Through community seed banks, small and marginal farmers can save, exchange and sell seed. They cooperate closely and support one another in cases of need.
- Their access to the resources they need is safe.
- Their traditional knowledge is documented. Incremental innovations serve to modernise traditional practices, and the impact can be diligently assessed step by step.
- Agricultural biodiversity is promoted and protected. Ultimately, community seed



Anitha Reddy of the NGO Sahaja Samrudha shows the seed bank.

banks (CSB) are an important tool to implement farmers' rights.

What makes traditional crops so valuable? The yields of hybrid varieties are higher.

Well, the green revolution focused completely on increasing productivity, relying on a very narrow genetic base and backing it up with synthetic inputs and increased

quantities of water. This approach is not environmentally sustainable. Traditional crops, by contrast, are adapted to specific local conditions. They have the potential for high yields, and they have characteristics like pest resistance or drought resistance. They fit particular soils and climatic conditions. Historically, farmers understood well what seed variety to use in what cir-

cumstances. As a consequence, they hardly needed any inputs from beyond their region. In the past, India had a huge diversity of rice varieties with special characteristics that evolved in tune with the local environment. Some varieties suited dry lands, others suited coastal areas or deep water. Due to widespread mono-cropping, this diversity has been eroded in a dangerous way.

New opportunities for farmers

A few decades ago, there was practically no organic food sector in India's retail markets. Now it has developed and offers smallholder farmers important opportunities. Founded in 2010, Sahaja Samrudha Organic Producer Company in Bangalore specialises in the marketing and branding of organic vegetables and grain.

One of the main challenges India's organic farmers face is that they are scattered and operate sporadically. They therefore struggle to market their products professionally. At the same time, demand for organically grown produce is growing, especially in urban areas such as Bangalore. Sahaja Organics builds a bridge between organic farmers and customers in the cities.

KfW Entwicklungsbank is promoting the effort with a loan worth the equivalent of around € 38,000. The loan was supplemented by a grant of around € 7,000 €, which was used to train and advise farmers and to organise marketing events.

Moreover, joint crop planning is carried out. It ensures that the farmers offer a broad variety of goods and prevents overproduction of a single good, which would then flood the market and make prices drop. Another strategy is to pro-

mote and market traditional plant varieties, which are also niche products in India. Sahaja preserves the seeds in a seed bank (see main article).

means bountiful nature. It aims to make the farmers more independent and resilient. Moreover, it wants to empower rural women, who are considered "the custodians of seeds".

Thanks to Sahaja Organics, hundreds of farmers have gained access to the market,

the south Indian state of Karnataka and parts of the neighbouring states Tamil Nadu, Kerala and Andhra Pradesh.

Before the introduction of hybrid seeds and industrial farming methods, agriculture in developing countries was always organic. According to



Farmer Rakash Chinappa shows his organic lentils, which he grows for Sahaja Organics.

Sahaja Organics is the brand that is used by Sahaja Samrudha, a non-governmental organisation, which cooperates with the farmers at grass-roots level. Sahaja Samrudha

and many more have been encouraged to focus on the cultivation of organic products. Today, the Sahaja network includes 2,800 organic farmers in 20 producer groups spread over

Sahaja, the great challenge today is to modernise traditional farming methods in sustainable ways that improve farmers' livelihoods in the long run. (sb)



What is the danger?

The greatest risk is that, one day, the high-tech hybrids may fail. They are very homogenous and therefore quite vulnerable. If all fields are more or less the same, they can all be wiped out in a single crisis. In such a setting, the much greater diversity of landraces would make most farms more resilient. Moreover, the seed industry needs the genetical resources of the traditional varieties to breed the hybrids it sells. Its genetical resources are dwindling however, because fewer traditional varieties are being cultivated. The industry cannot safely rely on gene banks either. Scientists tell us that the natural environment keeps changing and landraces keep evolving, adopting to that change. Seeds that were stored for many years in a gene bank may therefore no longer be suitable, even in the places they are from. To stay viable, the traditional varieties must be cultivated. If, by contrast, we rely on hybrids, we'll need ever more pesticides and water resources for irrigation, which we cannot afford for environmental reasons. And the brutal truth is that many smallholder farmers cannot afford them for economic reasons anyway.

So they need an alternative.

Yes, they do. And that alternative has to be sustainable both in business and environmental terms. Melaku Worede, the eminent scholar and founder of Ethiopia's gene bank, has stated: "Given the knowledge and skills within the traditional system, conservation of land races on peasant farms provides a valuable option for conserving crop diversity." That is what we are doing.

How do traditional seeds and organic methods help smallholder farmers to cope with environmental change?

Our experience is that this approach addresses the most significant issues affecting

rural communities: their social, economic and cultural rights. It is the farmers' right to preserve their own seed for future planting seasons. Doing so liberates them from external forces. Our traditional agriculture dates back thousands of years. Traditional crops were bred meticulously over generations to fit the local circumstances. They can withstand climate-related vagaries, offering nutrition security to masses of the small and marginal farmers, including tribal communities.

Which organic farming methods do you consider especially important?

Crop rotation matters: it is important not to grow the same crop on the same plot year after year. Cultivating different plants at different times serves several purposes, including preserving the productive capacity of the soil, minimising pests and diseases and managing nutrient requirements. As a result, yields are maximised. Mixed cropping is useful too: farmers sow several crops at the same time. That way, they can maximise land use and reduce the economic risks associated with a single crop failing. As the saying goes: don't put all eggs in one basket. Mixed cropping, moreover, boosts biodiversity in the sense of attracting a variety of beneficial and predatory insects, which in turn minimise pests. Indeed, what happens on a farm has an impact on the environment of that farm, so more diverse farms ensure greater overall environmental diversity.

What kind of seeds does your seed bank contain?

Our repository includes more than 800 varieties of rice, 120 of millet, 32 of wheat, 56 of eggplant and 52 of pulses. We also have many other vegetable and fruit varieties from 20 districts of Karnataka, as well as 23 different varieties of Indian cotton. Sahaja Samrudha is working with more than 6,300 farmers who breed and save seeds. We have 32 local seed bank subsidiaries, strengthening the local supply system. Moreover, we are running collaborative research programmes with academic institutions, thus according the farmers their true status as scientists, conservationists, breeders and innovators. They really play key roles in improving genetic resources at the local level – and they always have done so.

Do you reach out to the wider public?

Yes, we do our best to popularise the traditional varieties and raise awareness for their nutritional and medicinal values. We organise festivals that focus on biodiversity in general as well as on specific cultivars like rice and millet. We bring producers and consumers together at seed trade fairs in towns and cities. Small farmers earn money by selling seeds, and the consumers take pride in preserving the vanishing species in their backyards or even rooftop gardens.

What challenges do you face?

If you go to any part of Karnataka or anywhere else in India, most organic farmers will tell you that production is not a problem, but marketing is. So we set up a firm that specialises in marketing in 2010. It is the Sahaja Samrudha Organic Producer Company Limited (SSOPCL) and uses the brand "Sahaja Organics". It was a struggle to get it started, but now it is operating well. The concept is unique. It is wholly owned by organic producers who must be primary producers committed to protecting the environment and providing healthy food of high quality. SSOPCL only distributes certified organic products, and only certified organic farmers are eligible for membership. Our network includes about 2,800 individual organic farmers and 20 organic producer groups in Karnataka and the neighbouring Indian states of Tamil Nadu, Kerala and Andhra Pradesh. The company has become the largest wholesaler of organic rice, pulses and millets in Karnataka. The prices it pays the farmers are up to 20% above the conventional market price, but at the same time, it provides consumers with high-quality products and reasonable prices. It broke even in 2013, and the annual turnover amounted to the equivalent of about \$1 million. Our goal is to be the quality leader in the organic produce industry, and customer satisfaction is our top priority. Ultimately, we serve a triple purpose: ensuring rural livelihoods, marketing healthy food and protecting the environment.



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Endangered ocean treasures

Due to their great biodiversity, tropical coral reefs are often likened to rainforests. They are indeed ecosystems of supreme relevance. In spite of their incalculable value to humanity, they are under threat all over the world. Apart from global warming, the main harm is caused by overfishing and pollution.

By Jenny Kruttschinna

For 450 million years, corals have been building reefs. They always re-emerged after the great extinctions that marked earth's history, giving scope to complex ecosystems and even "exporting" species to neighbouring habitats. To maintain their spectacular biodiversity, contemporary warm water reefs need water that is extremely nutrient poor, but gets very much sunlight.

The ecosystem services they deliver to human communities are of incalculable value. Absorbing up to 95% of the force of waves, they protect coastlines. They cover only 0.15% of ocean floors, but are the habitat of about one quarter of marine biodiversity, so they ensure the food security of hundreds of millions of people. Moreover, reefs attract tourists, generate carbonate and are the source of pharmaceutically relevant agents. For example, an AIDS medication is derived from a Caribbean sponge, and the poison of a cone shell is the basis of a highly

effective painkiller. In total, reef related annual revenues are estimated to amount to € 26 billion.

All over the world, reefs are under imminent threat today. More than one third has already been lost since the 1980s. Another 50% is considered to be damaged long-term. Up to the early 21st century, overfishing, pollution, mismanagement and destructive fishing methods were believed to be the main reasons, and climate change was considered a less important driver. In the meantime that perception has changed: global coral bleaching was first observed in 1998, and the phenomenon reoccurred in 2010 and 2015, with increasing durations. The reason is the global increase in ocean temperatures.

Australian experts warned as early as 2015, at the UN climate summit in Paris, that global warming must be kept significantly below two degrees on average. Otherwise, the Great Barrier Reef (GBR) would be reduced to only 10% of its 1980 size by 2035. The GBR is the world's largest coral reef. The scholars estimated that 30% would survive if global warming was limited to 1.5 degrees. In 2016 and 2017, bleaching once more affected the GBR along a stretch of 1,500 kilometres. In some places, more than half of the corals died, and in the north, some important reef building species disappeared

entirely. The ecosystem has thus changed irreversibly.

Lack of progress in mitigating climate change is not the only problem. Many coral reefs are in the territorial waters of developing countries and emerging markets. Some of them suffer political instability, lack of funds for local action or do not muster the political will. Climate protection is indispensable for saving the reefs, but it will not suffice. Additional measures are needed to minimise the environmental pressure exerted by fishing, pollution, tourism and human-caused impacts in general. Protected areas must be established. Fishing must be controlled effectively in protected as well as unprotected reef waters. Tourism must become sustainable. Moreover, land-use patterns and coastal management must change as well. It is necessary to prevent sedimentation from rivers, erosion and construction sites. The same is true of pollution with nutrients from untreated wastewater or agriculture, chemical substances in general and garbage, especially of the plastic variety.

To protect reefs effectively, we need a holistic approach, taking into account everything that has a bearing on these precious ecosystems. The challenge is huge, and as a contribution to rising to it, the International Coral Reef Initiative (ICRI) declared 2018 to be an International Year of the Reef. Previously, 1997 and 2008 had been declared as such. Reef protection requires constant monitoring of reef conditions, research on how they adapt to change as well as awareness raising and education. For the purpose of monitoring, the Reef Check method was established 20 years ago. It serves to identify and compare human impacts on essential reef species globally.

LINKS

International Coral Reef Initiative:

<https://www.icriforum.org/>

International Year of the Reef:

<https://www.iyor2018.org/>

Reef Check:

www.reefcheck.org

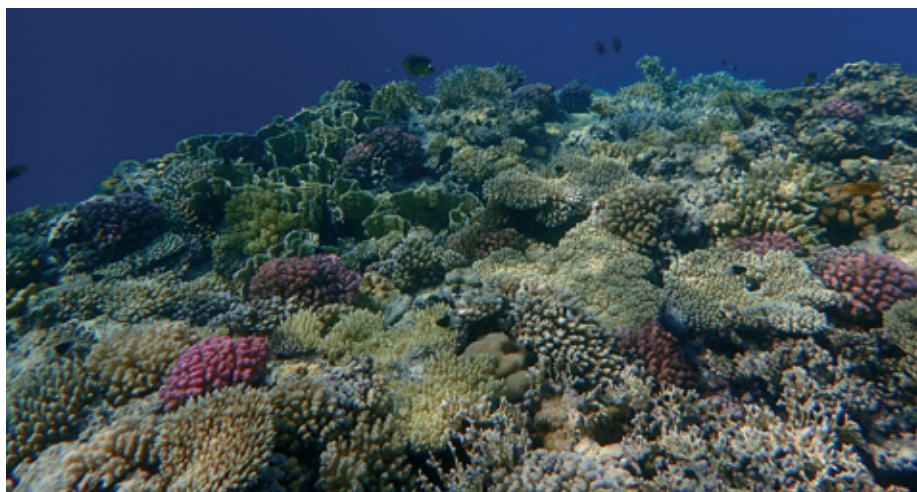


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Coral reef in the Red Sea.



Nature needs protection: Tsavo West National Park in Kenya.

Keeping the life insurance

Biodiversity is essential for the survival of humanity. Stephan Opitz, member of the Management Committee of KfW Development Bank, explains what lessons are to be learned from 30 years of conservation finance.

By Stephan Opitz

We have known it for long, but still do too little about it: species are becoming extinct at the rate of one every 15 minutes, an estimated 100 a day, nearly 700 a week, more than 30,000 a year. Yet we need biodiversity today more than ever – because it provides food, building materials, energy, medicine and a great deal more to a growing number of people.

Science cannot yet say exactly how many species are actually necessary for the survival of humanity, but it does tell us that “a lot is good”. The reason: diversity is like a life insurance. If one species fails, due to drought

or heat for example, its function is transferred to another. Accordingly, the continuous decline in the number of species is eroding humanity’s insurance cover day by day.

In response to the alarming depletion of biodiversity worldwide, the international community agreed in 2010, under the UN Convention on Biological Diversity (CBD), to commit to what is known as the “Aichi Targets”. They range from halving the loss of natural habitats to stopping the overfishing of oceans and placing 17% of inland water and 10% of marine areas under protection. The deadline for achieving the goals is 2020. Judging by the progress made so far, however, most of the targets will not be met. Therefore, at their latest meeting in Egypt in late November, the parties to the CBD launched one more urgent appeal, calling for the extension and intensification of global efforts to preserve biodiversity (see Günter Mitlacher, Debate section, D+C/E+Z e-Paper 2019/01).

What is needed is not just political. Significantly more money is necessary too, and it must be spent more efficiently. Experts reckon that an annual \$1.3 billion are needed to close the funding gap for maintaining today’s protected areas in developing countries and emerging economies alone.

KfW has a great deal of experience in this area. We have been involved in conservation for over 30 years. And with a portfolio of more than € 2 billion, we rank among the biggest international financiers in the field. Many years of engagement have taught us five important lessons for the future of conservation finance.

Lesson number 1: Long-term conservation works only if the local community benefits directly.

From the 1980s onwards, financial support to partner countries focused predominantly on government-funded conservation. In effect, this mainly meant helping underfunded, poorly equipped administrations of national parks in sub-Saharan Africa, with natural resources neither being protected nor managed sustainably. Their protection status existed only on paper. KfW

responded by frequently investing in park infrastructure and in better equipment for park administrations. Later on, we extended our focus to include the development of the rural peripheries of the parks in order to secure support from local communities. It had become clear that long-term success was only achievable if both the local communities and the national players had incentives to preserve biodiversity.

Lesson number 2: The running costs of protected areas need to be met, so long-term funding must be guaranteed.

One example is the case of the Amazon Basin, where protection for the rainforest is linked to protection for indigenous livelihoods (see Carmen Josse on p. 18). But before long, evaluations from every region started to show that national-park finance was generally only assured for the duration of the ongoing project. Once the investments were made, the question of long-term funding arose.

In Eastern and Southern Africa especially, the problem was compounded by increasingly well organised – and in some cases heavily armed – gangs of poachers. They decimated entire populations of rhinoceroses, elephants and other species to the brink of extinction. So even if the local community is involved, it is not enough just to designate protected areas or improve their management. The question of how parks can be sustainably financed must be considered early on.

Lesson number 3: The massive cost of preserving biodiversity cannot be shouldered by the public sector alone. Financing models need to mobilise private funding.

Against this backdrop, KfW joined with other actors to develop a new policy instrument: the conservation trust funds (CTF). Funds of this kind now play an important role in the preservation of biodiversity, especially in developing countries and emerging economies that struggle to earmark limited public money for safeguarding protection areas.

Most CTFs are established as endowments. These institutions generate revenues from the assets they own and use them to sustainably finance ongoing expenses. On behalf of Germany’s Federal Government, KfW is currently supporting the establishment and capitalisation of 18 CTFs, contributing to finance more than 200 protected ar-

eas. Examples of CTFs range from trusts that promote regional protected area systems (for instance the Amazon Fund in Brazil) through funds with a national remit (as in Madagascar), to transnational institutions (like the Sangha Trinational Trust Fund in the Congo Basin). In times of negative interest rates, however, the model has its limits. In some cases, CTF revenues have dropped so low that the management had to raise additional funds to cope with the lean times until interest rates rise again.

Lesson number 4: Intelligent use of public funds can prompt private investors to invest in new areas.

Public funds are best deployed by multiplying their impacts through other channels. One option is to cooperate with the private sector, which has been showing a growing interest in a healthy environment. First of all, sustainability is an increasingly important selling point in the eyes of consumers. Second, many companies realise that they rely on services that nature provides. They face escalating costs if such services fail – for example when water is in short supply or contaminated. Indeed, there are strong arguments why using natural resources more sparingly can interest the private sector. KfW supports that process. On behalf of the Federal Government, KfW has teamed up with Finance in Motion, a financial institution, and Conservation International, a US-based non-governmental organisation, to establish the eco.business Fund. Its purpose is to promote enterprises that develop innovative sustainable products and processes. The fund offers such companies low-interest loans, which are provided through local financial institutions. Shareholders of the eco.business Fund include state agencies, private investors and NGOs. The private investors benefit from the public-sector partners bearing the largest share of the risk. The Fund is currently operating in Colombia, Costa Rica, Ecuador, El Salvador, Honduras, Nicaragua and Panama. There is significant demand elsewhere too. KfW is working on transferring the model to Africa, where funding is set to start this year.

Lesson number 5: Cooperation with NGOs can supplement conservation work with partner governments in useful ways.

NGOs generally have a great deal of expertise because of their many years of ex-

perience on the ground. One example of cooperation with NGOs is the Blue Action Fund, which KfW initiated over two years ago on behalf of and in conjunction with Germany’s Federal Ministry for Economic Cooperation and Development (BMZ) (see contribution of Sabine Balk in the Monitor section D+C/E+Z e-Paper 2018/1). The Blue Action Fund is special because it supports the work of international NGOs such as Worldwide Fund for Nature (WWF) or Conservation International in coastal and marine protection while at the same time mobilising additional capital from other donor governments. And the response has been positive: Sweden and France are now on board, and other governments have shown interest in joining.

Thirty years of experience in nature conservation show that the classical funding model of donors and partner countries neither fulfils the financial requirements of conservation nor sufficiently addresses the complexity of the issue. To halt species decline, a wide range of approaches and funding sources need to be coordinated and reinforced. An alliance of public donors, partner governments, NGOs, the private sector and philanthropists is necessary. A few weeks ago, Swiss-American philanthropist Hansjörg Wyss pledged to donate \$1 billion over the next ten years to biodiversity protection. Such funding should be integrated in conservation approaches that are prepared and structured by development banks in order to avoid duplication of efforts or conflicting impacts. As an experienced development bank, KfW can combine the diverse interests and capacities of public and private financiers and channel them through scalable new approaches like the eco.business Fund or the Blue Action Fund.

Great strides need to be taken in conservation finance. Otherwise, the international community will find, when the Aichi Targets are reviewed at the global biodiversity summit in Beijing 2020, that the extinction of species has accelerated, and there is no money for the ambitious conservation goals needed for the next decade. That would be a disaster.



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Senegalese farmer on a parched field: agriculture requires fertile soil and water, but both are becoming rarer.

“The most powerful driving force is climate change”

The earth system is changing dramatically with impacts on the environment and people’s lives. Dirk Messner, the director of the Institute for Environment and Human Security of the United Nations University (UNU-EHS) and co-chair of the German Advisory Council on Global Change (WBGU), explains the greatest risks – and what kind of global transformations are needed to manage them.

Dirk Messner interviewed by Katja Dombrowski

The earth system is changing faster than ever before. For example the populations of vertebrate animals have declined by about 60% since 1970, according to the World Wide Fund for Nature (WWF). What other global environmental trends matter?

The most important trends with impacts on human life are:

1. The loss of fertile soil and, as a result, agricultural lands. One consequence is that arid regions are expanding. Climate change is playing a central role in this kind of change, but so is improper, unsustainable farming. Compounding the problems, food production must increase because the world population is still growing, while less and less land is available for farming.

2. The loss of water resources. Apart from climate change, the reasons are deforestation and the expansion of agriculture. Urban growth matters too, because cities consume a great deal of water.

3. The loss of biodiversity. We are currently experiencing extinction on a scale never seen before in the history of human civilisation since the Neolithic Revolution some 10,000 years ago. This decline in species will impact the resilience of biological systems and the water cycle – with conse-

quences that concern flooding, food production and, ultimately, human beings.

4. The oceans. We talk a lot about plastic in the water, which is a symbol for how overburdened the oceans are. Biodiversity is declining there too. The loss of fish and other marine animals has a direct impact on human nutrition. Climate change, moreover, is contributing to the acidification of the oceans.

And I would like to mention one more thing: the finite supply of phosphorus is a major challenge in regard to agricultural production. Phosphorus reserves are dwindling and we do not yet have an alternative to this fertiliser. In sum, we are reaching the earth system’s planetary boundaries.

You have talked a great deal about loss. Are all the observable environmental changes negative, or are there positive developments as well?

Well, if you look at the dynamics, it’s clear that the developments are overwhelmingly negative. Of course, some dry regions may get more water in the future if climate zones shift due to global environmental change. But such isolated phenomena should not blind us to the fact that, overall, the trends are extremely bad. We must learn how to organise human development and pros-

perity for a world population that will soon amount to 10 billion people without breaching the planetary boundaries. That is one of the major global challenges in this century.

To what extent are the harmful environmental trends interrelated?

That is a central question, and it points directly to the climate problem. The most powerful driver of many of these developments – plastic pollution is an exception – is climate change. If we do not succeed in limiting global warming to 2 degrees Celsius, this trend will cause the most dramatic changes. The various dynamics are interrelated. If, for example, the earth continues to warm, the Amazon region will be increasingly at risk and may actually become a desert. That would impact water, soils and food security in Latin America, and most likely the stability of the continent’s societies too. Or take glaciers and the polar ice caps: if they melt, there will be fewer white surfaces on the planet. These surfaces reflect sun rays back into space, and thus limit warming. The melting therefore exacerbates global warming, and this is known as the albedo effect. There are dozens of domino effects of this kind. Global environmental changes are interconnected.

How many of these environmental trends are human-made?

Most of them are. The earth system has always been changing, but the big difference now is that the changes we are experiencing now have become incredibly fast. During the last ice age, which ended about 12,000 years ago, the climate system was three degrees cooler than in the pre-industrial period. Should climate protection fail, we may witness a similar increase within a single century. Biodiversity and ecosystems would struggle to adapt to such high-speed change. Disruptive transformations could occur. Tipping points would be reached, triggering processes that would overwhelm many societies. The underlying reason for these super-fast developments can be found in our economic system. The world economy is still very resource- and emission-intensive. It is overtaxing the earth’s ecosystems considerably. At the same time, the world population is growing, so the pressure is increasing more and more.

In your opinion, what are the most important starting points to stop the negative trends?

We need a wide range of global transformation processes:

1. We have to transform our current mode of production and build a circular economy. We must recycle waste instead of consuming ever more resources.
2. We have to build sustainable and climate-friendly cities. One important issue is mobility, another is building materials: cement, steel and glass are very harmful to the climate.
3. We need an agricultural transformation.
4. Energy systems must be decarbonised all over the world.

In order to achieve all this by the middle of the century, we have to invest in human development. People need education, health care and access to other essential goods. Our institutions and governments also have to do their part.

Many of the trends you have just assessed threaten us human beings. What are the greatest risks?

The greatest risk is climate change. It is the most powerful driver of many other dynamics. If we do not get climate change under control, we will not be able to solve many other problems. That is why it should be at the centre of our attention. In order to focus on it, however, we must simultaneously address social cohesion and justice. Otherwise we will not have the legitimacy needed to bring about the necessary transformations. Societies, companies and individuals find it hard to make such big changes.

What is our responsibility as individuals and what is the responsibility of policy-makers?

Two thoughts: as individuals, we cannot bring about major transformations on our own. Rules are needed, which is where governments come in. The economy must be reorganised. On the other hand, as citizens and consumers, we can make good or bad choices. Mobility, for instance, is a significant challenge. We can decide whether we consume a large or a small amount of resources and the level of emissions that this implies. There is no human right to owning an SUV or taking long-distance airplane flights. Another example is food waste. About 40% of food in Germany is thrown away. The state can’t assume responsibility for these things. Doing the right thing is up to us.

Driving SUVs, throwing away leftover food – these sound like First-World problems ...

Yes, indeed. Generally speaking, the poorer half of the world population cannot do much as individuals to limit climate change. They are the victims of climate change, the ones who suffer the most but bear the least responsibility for the problem. That is an injustice.

There are already good international agreements to counter climate change, for instance the 2030 Agenda with its Sustainable Development Goals (SDGs) and the Paris Agreement. Is it enough to implement these international agreements?

Well, in regard to the climate agreement, let me say that so far we only have commitments that would solve about 40% of the problems. We must aim much, much higher. Successfully implementing the SDGs wouldn’t solve every problem either, but it would be an enormous step forward. So far, the global community is not on the right track to making them come true however. That’s why the UN Sustainable Development Summit, which will take place in New York in September, will be so important. To answer your question as to whether all this is enough: the 2030 Agenda does not say that we are aiming for everyone to achieve the level of prosperity of, say, Europe or Costa Rica. In many areas, we are simply concerned with reaching minimum standards – like “decent work”, for instance. It would be wonderful to fulfil the agenda, but after 2030, we will have to set new goals. The same is true of the climate agreement: if we could limit warming to 1.5 degrees Celsius, we would be able to avoid the worst. Two degrees of warming would already mean that island nations would disappear. And if climate change were to be stopped – which we are nowhere near achieving yet – we would still need to do more to stabilise the earth system. That will remain a Herculean task for future generations.



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Awash in trash

The world is drowning in garbage. According to a recent World Bank study titled “What a Waste 2.0”, under current trends the world will generate 3.4 billion tonnes of municipal solid waste per year by 2050, up from 2.0 billion tonnes in 2016.

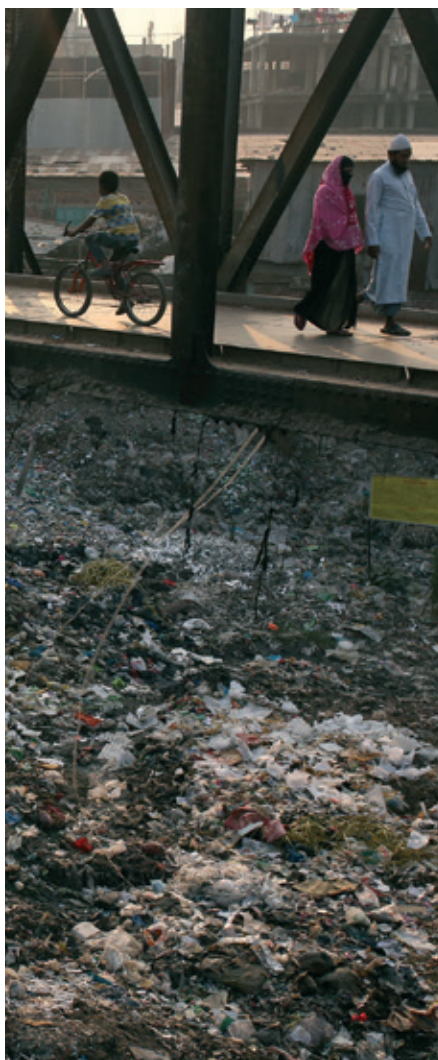
By Aviva Freudmann

The tide of trash is rising quickly. Only six years ago, the first edition of “What a Waste” estimated global waste production at 1.3 billion tonnes. The upward trend is due to growing cities, rising incomes and an increasing world population, argue the authors, Silpa Kaza, Lisa Yao, Perinaz Bhada-Tata and Frank Van Woerden.

The solid waste has various sources. Food and other biodegradable waste comprises 44% of the total. Close behind are dry recyclables such as plastic, paper, cardboard, metal and glass, with a combined 38%. The rest spans a range of materials including wood, rubber and leather.

Plastic waste is a particular challenge – and far too much ends up in the oceans. “In 2016, the world generated 242 million tonnes of plastic waste – 12% of all municipal solid waste,” the report says. “Unlike organic waste, plastic can take hundreds to thousands of years to decompose in nature.” This waste leads to considerable health and environmental damage, the report says: “Plastic waste is causing floods by clogging drains, causing respiratory issues when burned, shortening animal lifespans when consumed, and contaminating water bodies when dumped into canals and oceans.”

Today, garbage problems particularly haunt low-income countries with only rudimentary systems for collecting and managing waste. Therefore, only about 39% of the trash is collected in the first place, compared to nearly 100% in high-income countries. “Open dumping is prevalent in lower-income countries, where landfills are not yet available,” the authors point out. “About 93% of [uncollected] waste is burned or dumped in roads, open land, or waterways.” The World Bank estimates that low income countries will generate three times more trash in 2050 than they do today.



Plastic waste on a river bank in Dhaka, Bangladesh.

Building and using landfills is typically the first step toward solving this problem in a sustainable way. Yet only three percent of the waste is deposited in landfills in low-income countries, compared to 39% in high-income countries. Recycling, which requires infrastructure investment, accounts for only 3.7% of trash disposal in low-income countries, compared to 29% in high-income countries.

These comparisons point the way to some possible solutions. Investing in collection, recycling and disposal infrastructure

makes economic sense, the authors note, as the benefits tend to be worth several times the costs of “simple, adequate waste management systems”.

Investments are needed, the authors point out. Moreover, they call for policy measures that promote comprehensive waste collection, more recycling and safe disposal systems. The EU, for example, has set a goal of making all plastic packaging recyclable by 2030. It has outlined ten key indicators for monitoring the progress made towards a recycling-oriented “circular economy”.

South Korea, meanwhile, has established a waste-management information system which digitally records statistics from waste generation to transportation. A second system aims to cut waste at the source. To open food-waste disposal bins, people need a card with a personalised radio-frequency identification (RFID) chip. This enables authorities to charge households based on the amount of waste they deposit.

Other policy measures tackle the social side of waste management, such as improving the lot of so-called “waste pickers” who provide a sorting service, facilitating rudimentary recycling in low-income countries. The Recuperar cooperative in Medellín, Colombia, is an example. Its waste pickers earn 1.5 times the minimum wage. They have health and accident insurance and are entitled to loans.

In a broader sense, correct trash management requires a comprehensive view of the life cycles of products and their components. Products and packaging should be designed with an eye to reducing environmental harm.

Policy measures should counteract the “throw-away” mentality and promote awareness of the environmental, health and social impacts of improper waste management. That, in turn, would help to stem the tide of trash that threatens to engulf the planet.

LINK

World Bank, 2018: **What a Waste 2.0. A Global Snapshot of Solid Waste Management to 2050.** <https://openknowledge.worldbank.org/handle/10986/30317>



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