

# akzente

2/2019

The GIZ Magazine

## Embracing peace

Coming to terms with  
the past in Colombia

## Water music

Hygiene lessons for children  
in the Lao PDR

## A fresh start

Improving job opportunities  
in Lebanon

# Waste

Throwaway lifestyles



**I NOW HAVE A JOB  
OF MY OWN.**

**FERIAL SALEM AL JAHRAN**

The plumber is one of more than 50 women in Jordan who now work in a traditionally male profession thanks to training.

---

You can find this and other 'Faces and Stories' online at  
[www.giz.de/stories](http://www.giz.de/stories)



Scan the code with your smartphone to watch the video.

# BIN THE THROWAWAY MENTALITY

Our irresponsible attitude to waste is something we can no longer afford.

LANGUAGE SHAPES OUR THOUGHTS. And our thoughts influence our actions. So the words we use and the way we use them also say a lot about what we are doing. And 'waste' is a case in point. The English word has its origins in the Proto-Germanic *\*wōstinjō*, meaning 'wasteland', and is related to the Modern German 'Wüste', or 'desert'. However, we could simply call it something else – a 'base product', for instance, or a 'reusable' or 'recyclable' material. As soon as we stop referring to it as something 'to be wasted', it becomes a product, a good, a thing of value, and we would think twice before carelessly casting it aside.

AND THIS IS PRECISELY WHAT NEEDS TO BE OUR GOAL, first through our words, then through our actions. Because the mountain of waste is growing all the time. Another 500 million tonnes will have been added in the three months or so it has taken to produce this magazine. We are throwing so much away, we are drowning in it. Rubbish is everywhere: in the deepest places on Earth – in the Mariana Trench – and on top of the highest mountains – in the Himalayas. Rubbish is now turning up in the stomachs of fish and birds, in empty salt domes and even in outer space. And nothing will change as long as we cling to our throwaway mentality and fail to see the value in things just because we no longer need them. After all, 'waste' is a foreign concept in nature, which knows only natural cycles. Only we humans put the system under strain with our excesses.

HOW MUCH WASTE we are producing and where, and what problems this is causing for developing countries in particular – these are the questions we will be focusing on in this issue. It is clear that, alongside climate change, tackling waste is a major challenge of our times. Unlike climate change, however, which has the Paris Agreement, the issue of waste still lacks a prominent international strategy, a regulatory framework to support recycling and curb disposal.

IN A GUEST ARTICLE, Jochen Flasbarth, State Secretary at the German Environment Ministry, therefore makes the case for a consistent switch to circular material flows. In his essay, prizewinning environmental journalist Joachim Wille examines the growing mountains of rubbish around the world and takes a critical look at previous (in)activity to tackle the issue. In addition, Italian marine researcher Maria Cristina Fossi explains in an interview how marine life is suffering at the hands of a foreign body – plastic.

AT GIZ, we want to make a constructive contribution too: not only in this issue, in which we look at the topic from a wide variety of angles, but also in the projects we implement around the world to help prevent waste and kick-start recycling schemes. And, ultimately, within the company itself: even in procurement, we make sure that as little waste as possible will eventually be left over and we favour reusable solutions. Our toner cartridges are recycled and, in the tender process for our IT equipment, we check whether the equipment can be re-



SABINE TONSCHEIDT,  
Director of Corporate Communications  
sabine.tonscheidt@giz.de

paired. Our field offices also contribute: the office in Thailand has taken part in beach clean-ups and now consumes much less paper. GIZ's Civil Peace Service in Kenya has launched a campaign to collect and recycle its rubbish in cooperation with a local partner. Admittedly, these are not comprehensive circular systems, but they are important first steps that we can build upon. Or, in other words, measures that we plan to 'upcycle'.



REPORT

**Kick-off at the scrapyard**  
The Agbogbloshie e-waste dump p.18

NEWS

**There is another way**  
Smart ideas for tackling waste p.22

GUEST COLUMN

**A circular approach**  
By State Secretary Jochen Flasbarth p.23

ESSAY

**Throwaway lifestyles**  
By environmental journalist Joachim Wille p.24

INFOGRAPHIC

**As far as the eye can see**  
Waste knows no borders. p.30

INTERVIEW

**‘The time to act is now’**  
Marine biologist Maria Cristina Fossi p.32

BACKGROUND

**Global network for solid waste management**  
By GIZ planning officer Judith Wolf p.34

EXAMPLES OF GIZ'S WORK

**Added value for many**  
GIZ's activities in brief p.35

IN FOCUS: WASTE

# A closer look

For a long time, waste seemed like a distant, abstract issue. But images of endless mountains of rubbish and seas full of plastic make it clear that this is a far-reaching problem.

EDITORIAL

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26



NEWS

## Strong partnerships

Anniversaries, new projects and facts and figures from around the world p.6



REPORT

## Embracing peace

What Colombia is doing to come to terms with its violent past. p.10

PHOTOS: DARIO PIGNATELLI/POLARIS/LAIF (P. 4, TOP), THOMAS WAGNER (P. 4, RIGHT)





SNAPSHOT

### Kicking up dust

Women in India are taking a stand against water scarcity. p. 36



PERSPECTIVES

### A fresh start

How intensive training courses are improving job opportunities in Lebanon. p.44

INFO

SUSTAINABILITY, AKZENTE

27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52



REPORT

### Water music

Hygiene lessons are part of everyday school life in the Lao PDR. p. 38

INTRODUCING

### Greetings from Islamabad

Introducing Judit Demjén, an expert on matters relating to refugees p.50



DIGITAL AKZENTE

Our magazine is also available online in an optimised form for mobile devices.

[akzente.giz.de/en](http://akzente.giz.de/en)

IN FIGURES

95

billion US dollars' worth of productivity is lost in low-income and middle-income countries every year because people are having to eat food that is unsafe, according to estimates by the Food and Agriculture Organization of the United Nations. Every year, 600 million people fall ill after eating food that has been contaminated, e.g. by chemical substances.

[www.fao.org](http://www.fao.org)

31%

is the low proportion of adults who have the problem-solving abilities needed to work in technology-rich environments. A study examining these skills in OECD countries concluded that digital technologies are capable of improving the lives of those able to use them. However, there is also the risk of a 'digital divide', which threatens to exacerbate the problem of inequality.

[www.oecd.org](http://www.oecd.org)

376

million instances of sexually transmitted infections (STIs) affect people around the world every year. The STIs in question are syphilis, chlamydia, trichomoniasis and gonorrhoea. The exact total has never been measured. Such infections can have far-reaching consequences: in 2016, syphilis caused more than 200,000 stillbirths and newborn deaths.

[www.who.int](http://www.who.int)



## Women and technology

**SUPPORTING GIRLS** What do a German member of the Siemens Managing Board, a South African IT lecturer and the Indian founder of an online magazine have in common? Janina Kugel, Mmaki Jantjies and Japleen Pasricha are all women who are carving out a successful career in the male-dominated tech industry. They are among 30 women profiled in the German Development Ministry's publication 'Women in Tech', part of the eSkills4Girls initiative that aims to get more girls interested in technology.

[www.bmz.de/de/service/sonderseiten/women\\_in\\_tech](http://www.bmz.de/de/service/sonderseiten/women_in_tech) (in German)

# ‘Today a radical energy transition is needed to save our common home.’

POPE FRANCIS on 14 June 2019 at a meeting in the Vatican with senior executives from multinational energy corporations

## 20 years of develoPPP.de



**PARTNERSHIPS** The private sector and development cooperation have been pooling their strengths as part of the develoPPP.de programme to find solutions to global challenges for almost 20 years. Set up in 1999 by the German Federal Ministry for Economic Cooperation and Development, develoPPP.de helps to fund the work of companies in developing countries and emerging economies if their project ideas also contribute to sustainable social improvements in the respective country. The companies cover at least half of the project costs. More than 2,000 cooperation projects in more than 100 countries have already been

implemented in collaboration with the private sector, with GIZ acting as a partner for technical cooperation on the ground. One such example is in Tanzania: on the island of Zanzibar, supplying clean drinking water is difficult due to rising sea levels and bacterial contamination. To tackle this problem, develoPPP.de is working with three medium-sized German enterprises. Together, they have built water treatment and desalination plants, while special processing technology makes it possible to use contaminated ground-water again.

[www.developpp.de/en](http://www.developpp.de/en)

## THREE QUESTIONS FOR



CONSOLEE UWIZEYIMANA

The 28-year-old Rwandan was one of the first participants in the six-month programme run by WeCode, a software academy in Rwanda exclusively for women. GIZ is helping to fund the academy on behalf of the German Federal Ministry for Economic Cooperation and Development.

### What did you learn at WeCode?

I took a course for women with previous experience. Although I already had a university degree in IT, I still didn't have a job. I lacked a lot of basic skills such as project management and teamwork. My English was also practically non-existent. I was taught all of this at WeCode. I also improved my programming skills and learned about software testing.

### You started at WeCode a year after finishing your university degree. What did you do in that year?

I lived with my parents in their village and helped them with work on the fields.

### What are your thoughts looking back and looking forward?

The programme has really boosted my self-confidence. I started out bottom of the class in some areas. But I kept at it and ended up coming top in some things. My plan is to quickly find a job that allows me to apply my skills. I'm optimistic because I gained a lot of experience during a four-month work experience placement at a software company, which was part of the programme.

<https://www.giz.de/en/workingwithgiz/75874.html>



# A hackathon for energy



buildings. In May, GIZ organised a hackathon in the capital Ankara together with several partners. The Energy Efficiency Hackathon brought together young IT experts and challenged them to come up with potential approaches in four areas: raising awareness of energy efficiency in schools, energy-efficient of-

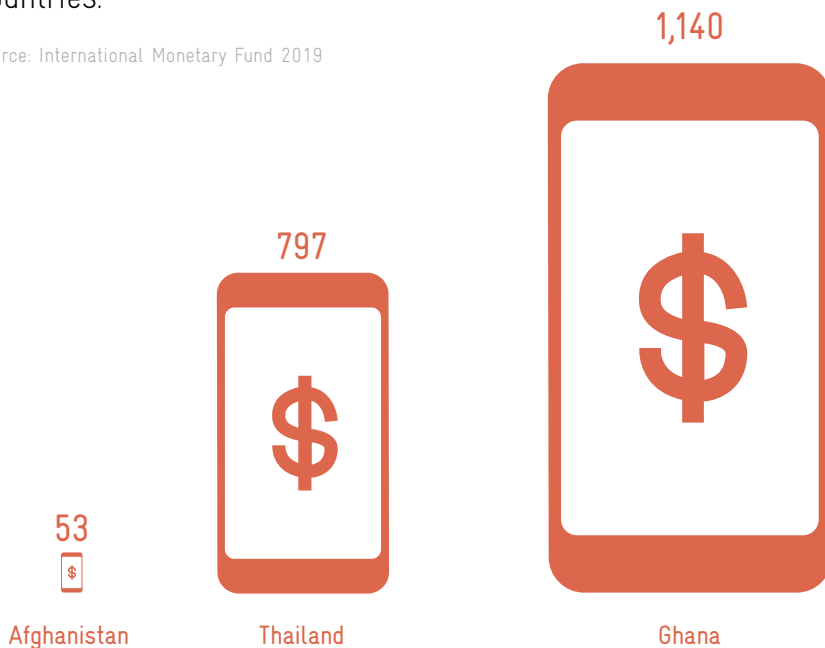
**SMART IDEAS** Across the world, energy efficiency is playing a key role in efforts to curb global warming. For example, Turkey wants to significantly reduce energy consumption in buildings, industry and transport. On behalf of the German Environment Ministry, GIZ is helping the country to improve energy use in public

spaces, a smart energy law and smart hotels – because hotels consume a particularly large amount of energy. Two winning teams were selected, who then took part in the Energy Business Camp in Karlsruhe in the summer. At the camp, mentors helped participants to develop business models for their ideas.

# Mobile money is having an impact

**IN COMPARISON** The option of making payments via mobile phone is offering people all over the world a new way to access financial services. The figures show the number of registered mobile money accounts in 2018 for every 1,000 adults in three countries.

Source: International Monetary Fund 2019



# Partners for 60 years

**CELEBRATIONS IN JORDAN** 'What is cooperation?' A great answer to this question can be found on the wall of a girls' school in the Jordanian capital Amman. Artwork on the wall depicts two women communicating using tin can phones (the photo above shows only part of the mural). The street art project by students and a local artist launched celebrations to mark 60 years of Jordanian-German development cooperation. This cooperation has always focused on employment, vocational education and training, and waste and water management. In addition, GIZ is implementing projects relating to the environment, climate change, gender and psychosocial support. GIZ also provided significant assistance to Jordan during the refugee crisis in neighbouring Syria. For example, GIZ's contribution reached around 380,000 refugees and more than 1.7 million people in host communities between 2015 and 2017.

[www.giz.de/en/worldwide/360.html](http://www.giz.de/en/worldwide/360.html)



# A clean sweep: Phasing out coal in Chile

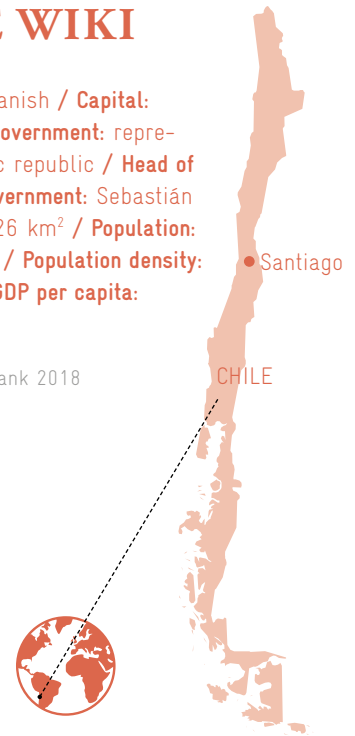
**AMBITIOUS CLIMATE TARGETS** In June 2019, Chilean President Sebastián Piñera announced plans to promptly close eight coal-fired power stations alongside further steps to phase out coal. By turning its back on this highly polluting method of generating electricity, the South American country is taking a major step towards meeting the terms of the Paris Agreement on Climate Change. Chile wants to cut its CO<sub>2</sub> emissions by 30 per cent by 2030. Working on behalf of the German Environment Ministry, GIZ is supporting Chile in boosting renewable energies and energy efficiency. The country is in an excellent position to generate energy from renewable resources, with ideal conditions for wind power, large water reserves and, in the north, the highest solar incidence in the world. GIZ is supporting the optimum use of these resources, for example through technical guidance, policy advice and the transfer of technology. Chile will be hosting the next UN Climate Change Conference in December 2019 in an effort to drive forward the issue of climate change mitigation on the global political stage.

[www.giz.de/en/worldwide/388.html](http://www.giz.de/en/worldwide/388.html)

## CHILE WIKI

**Official language:** Spanish / **Capital:** Santiago / **Form of government:** representative democratic republic / **Head of state and head of government:** Sebastián Piñera / **Size:** 756,626 km<sup>2</sup> / **Population:** approx. 18.5 million / **Population density:** 25.2 per km<sup>2</sup> (1) / **GDP per capita:** USD 14,670 (2)

Source: (1, 2) World Bank 2018



## NEW PROJECTS



### A global approach to health

**WORLDWIDE** Global Health Hub Germany is the name of a new independent network geared towards bringing together actors in global health care. Together, the network aims to share knowledge and find interdisciplinary solutions. The platform was launched by the German Federal Ministry of Health. Working on its behalf, GIZ manages Global Health Hub's liaison office, which provides support with content and administrative matters. Previously, GIZ had been involved in developing strategies for the network.



### Expertise in nutrition

**INTERNATIONAL** We are currently seeing several alarming trends in the area of nutrition, including growing numbers of people going hungry, and increasingly overweight populations. The German Development Ministry is therefore financing the Knowledge for Nutrition (K4N) project in collaboration with the European Commission. GIZ is advising the Ministry and the Commission on the effectiveness of nutrition-related programmes and strengthening their expertise in this area.



### Climate-friendly cooking

**KENYA AND SENEGAL** The Green Climate Fund is the most important fund providing international financing for climate projects. It recently approved a second project application from GIZ, which builds on the 'Energising Development' programme. In Kenya and Senegal, efforts are under way to strengthen the markets for healthier, energy-efficient stoves that require up to 50 per cent less biomass than traditional cooking methods. The aim is for sales of these modern stoves to increase sixfold in both countries by 2030.



**POIGNANT**

A Year 11 student at the Puente Amarillo school in a play about the murder of peace activists



*Embracing peace*

# EMBRACING PEACE

Colombia is beginning to come to terms with its violent past. In schools, young people are talking about the armed conflict and seeking pathways to a better future. Germany is supporting the peace process.

TEXT KAREN NAUNDORF PHOTOS THOMAS WAGNER





**Top:** Head teacher Ana Beatriz Rintá  
**Bottom:** 'Protección' ('protection'). Young people use role play to express their aspirations.

The project contributes to the following United Nations Sustainable Development Goals (SDGs):



# A

A school where the head teacher's office is a treehouse is not your average school. And a head teacher who has made peace education a priority of the curriculum is breaking new ground in Colombia. 'Peace isn't something you can simply learn. You have to fully embrace it, which is what we're doing here,' Ana Beatriz Rintá explains. She has been head teacher of the Puente Amarillo school near Villavicencio, some 70 km south-east of the capital Bogotá, for more than ten years. The classrooms are situated on a vast green campus, like little bungalows in a forest.

This peaceful, serene setting is in stark contrast to the history of the province in which the school is located. In Departamento Meta alone, with its population of 800,000, some 300,000 people were the victims of violence during the 50-year armed conflict. These rural areas, where the state was largely absent, were the main battlegrounds for the right-wing paramilitaries and left-wing guerrilleros. To date, the Colombian Government has registered nine million victims of the violent clashes nationwide – and this with a total population of 49 million. Hopes were high when the peace treaty entered into force at the end of 2016 following lengthy negotiations between Colombia's Government and the FARC, the largest guerrilla group. But the country is still a long way from stability, with political murders, attacks and illegal structures jeopardising peacebuilding efforts. For head

teacher Rintá, however, there are no alternatives to the current path. 'We want a peaceful Colombia,' the 58-year-old says. 'It would be crazy to keep on going as before – and expect a different result. Future generations need to grow up in a different environment.'

This is what her staff are working towards. At the edge of a small area of marshland, the students are observing dragonflies. Away from the school buildings, there is a quiet reading corner with wooden benches nestled between trees. There are workshops for furniture making, swimming, music, gardening or making art from recycled materials. Alongside a staircase, a slide also leads down from the head teacher's treehouse. 'If the students are bored, it means the teacher has lost,' Rintá says. She wants to inspire the next generation – and spark their enthusiasm for peace.

A state school like Puente Amarillo that is attended by children from families in all income brackets is a rarity in Colombia. This is





On a mission for peace: students at Colombia's Puente Amarillo school near Villavicencio take part in a sociology lesson.

because the country's social inequality is also reflected in its education system. Although state schools are free, they have a bad reputation: classrooms are often overcrowded and staff are overworked. The education system is organised at local level, meaning that poorer districts lack the necessary equipment and materials. So anyone with money sends their children to a private school.

### A toolbox to support teachers

Puente Amarillo, by contrast, is a flagship project. Teachers from outside the area regularly come and sit in on sociology lessons. Teachers can use a toolbox for reflecting on memories when working on coming to terms with the past. The materials, which are available to all schools in Colombia, were put together by the National Center for Historical Memory with support from GIZ. The toolbox contains role play ideas, accounts of contemporary witnesses and songs. Because many Colombian teachers and schoolchildren are themselves victims of the violent conflict, the materials need to take these highly sensitive circumstances into account. And people in Puente Amarillo already have ample experience of this, not least thanks to regular ongoing training workshops for teachers, which are organised by GIZ. This is all part of the programme known as ProPaz (English: 'for peace') through which GIZ, on behalf of the German Development Ministry and the European Union, is supporting stability and peace in Chile.

## COLOMBIA

Capital: Bogotá / Population: 49.4 million / GDP per capita: USD 6,190 (1) / Economic growth: 2.7 per cent (2) / Human Development Index ranking: 90 (out of 189)

Source: (1, 2) World Bank 2018



As well as peacebuilding and coming to terms with the past, the broad-based approach with which GIZ is supporting the peace process on behalf of the German Government also includes improving working conditions. These efforts have reached **850,000 people**, while **80,000 participants** have benefited from training.



Combating violence: Jorge Botello, known as Pepe, and his sister Sara are members of the '5ta con 5ta' cultural collective from Cúcuta, on the border with Venezuela.



A music video featuring peace activists from '5ta con 5ta' can be found at [akzente.giz.de/en](https://akzente.giz.de/en).



The workshops also foster a teaching network that was set up in July 2017, where teachers can support one another in their mission to help others come to terms with the past. Jhon Cuervo is a teacher in the network. He stands at a chunky black desk at the front of the classroom. On the wall next to the door is a quote by the Danish philosopher Søren Kierkegaard: 'Life can only be understood backwards; but it must be lived forwards.' Thirty 16-year-olds sit behind long rows of desks. One topic that they are particularly concerned with is the murder of representatives of social movements. Violence in the country has not ceased since the peace deal was signed in 2016. According to NGO Indepaz, more than 700 people working for social causes or to protect human rights have been murdered. The students have written a play about this, in which smallholders are about to be forced off their land by a multinational corporation. They fight back – and are threatened and killed by paramilitaries. Cuervo, who teaches sociology, supervised the students and is proud of their achievements. 'We want to encourage critical thinking at this school.' However, in a country with deep political rifts, do parents appreciate this? 'We need to proceed with caution,' Cuervo says. 'We're never going to be party political and we won't name names. We give the students the basic details – and they have to draw their own conclusions.' So the school works in the spirit of Kierkegaard – for a future that learns from the past.

## Songs about the 'inherited war'

More than 400 kilometres away on the Venezuelan border, Pepe, Estefania and their sister Sara sit at a garden table beneath a mango tree. All three live in the city of Cúcuta, where they have helped to set up a creative collective called '5ta con 5ta', after the street corner where its work began in 2008. The 17-strong team run workshops to encourage young people to deal with the past through art – be it graffiti, dance projects or music. GIZ is supporting this cultural initiative through ProPaz. Jorge Botello, known as Pepe, shows video clips on his laptop that were filmed at the workshops. 'This isn't our war, we just inherited it,' raps a boy in one of the videos. Other young people sing about violence against women, about people discarded as though they were rubbish, but also about how they are a new generation that wants to live in peace. The collective organises workshops in local schools and cultural centres. Pepe outlines their three main objectives: 'Victims have to be given names. They can't just be numbers in the statistics. The young participants have been inspired to learn and to recognise that this is the way. And they need to understand what's going on in their part of the world at the moment – and why.' The region along the Venezuelan border is one of the main centres for illegal coca cultivation in Colombia and is still very much a battleground, with guerrilla groups, drug cartels and



## INTERVIEW



**STEPAN UNCOVSKY**

GIZ Country Director in Colombia

### How can GIZ support peacebuilding in Colombia?

The peace treaty explicitly names Germany as a partner supporting the implementation of the peace agreement. With our peacebuilding programmes, we are supporting transitional justice, efforts to come to terms with the past and the search for the 100,000 or so missing persons. But there are other initiatives too, from the private sector for instance, that are helping to build peace, such as creating jobs in rural areas. After all, that was where the conflict started.

### What are the biggest challenges?

After Syria, Colombia has the highest number of internally displaced persons in the world – between seven and eight million. Here too, we're attempting to help as part of the 'Special Initiative on Displacement' and give people the prospect of a job and an income. And, in so doing, create a framework for a future without conflict. The government is trying to drive the peace process forward, but dealing with the past is complicated. So our projects are often geared towards laying the foundations for people to live together in harmony by achieving a common understanding within civil society. We're always particularly pleased when discussions prompt feedback from former conflict regions that people appreciate our support for peaceful coexistence.

### Colombia has taken in three million people from Venezuela. What does that mean for GIZ's work?

If we want to provide efficient support to the peace process, we need to help the migrants too. This is because they are cheap labour – for growing coca illegally, for instance. The armed groups are also recruiting migrants. It's no coincidence that the ELN, the biggest guerrilla group, has doubled in size to 4,000 fighters in the space of 18 months. The state and other organisations provide some initial food and treat the new arrivals who are sick. Socio-economic integration is also important, though, and we are one of the few doing work in this area. We are trying to create prospects for the refugees together with their host communities.

paramilitaries all vying to control the smuggling routes and become the dominant power. As to whether peacebuilding work in this environment might be dangerous, Pepe says: 'We aren't viewed as a threat. People just see us as crazy artists.'

## 'My grandfather was killed harvesting the fields'

A class taught at the Puente Amarillo school shows just how complicated it is to address the violent conflict in Colombia. The teacher starts by asking her students to form two rows and get into pairs: original and mirror. If those in the original role scratch their ears, their mirrors do too. If they rub their stomachs, so do their mirrors. Some students laugh, while others look annoyed because the exercise is not working in synch. 'See? We can't coordinate what we're doing without talking to each other,' says the teacher. 'We are all different; we have all experienced different things in life.' The role play served as an introduction to a discussion about the students' own memories: who am I? What have I experienced? The aim is for the students to understand that their experiences of the violent conflict are all completely different. And listening to one another helps them to understand one another.

'Guerrilleros killed my grandfather while he was harvesting the fields. They thought he was a paramilitary. But they'd got him mixed up with someone else,' says a boy. Another says: 'I'm glad the military came to our village and forced the guerrilla group out, else they'd have taken me with them and I'd be a fighter by now.' The teacher is full of praise for how the children are sharing their experiences with each other: relating their stories without accusations. And she recounts how she was forced to watch with others as someone she knew was killed by paramilitaries. 'We've all been through so many terrible things in this country,' says the 40-year-old. She is keen to remain anonymous as she is still scared about sharing her experiences. Nevertheless, she firmly believes that schools have to do their bit in coming to terms with the past. 'This is why I'm also committed to peace and take part in every training course!' —



**KAREN NAUNDORF** is a correspondent for Schweizer Fernsehen (Swiss Television) in South America and regularly reports from Colombia.

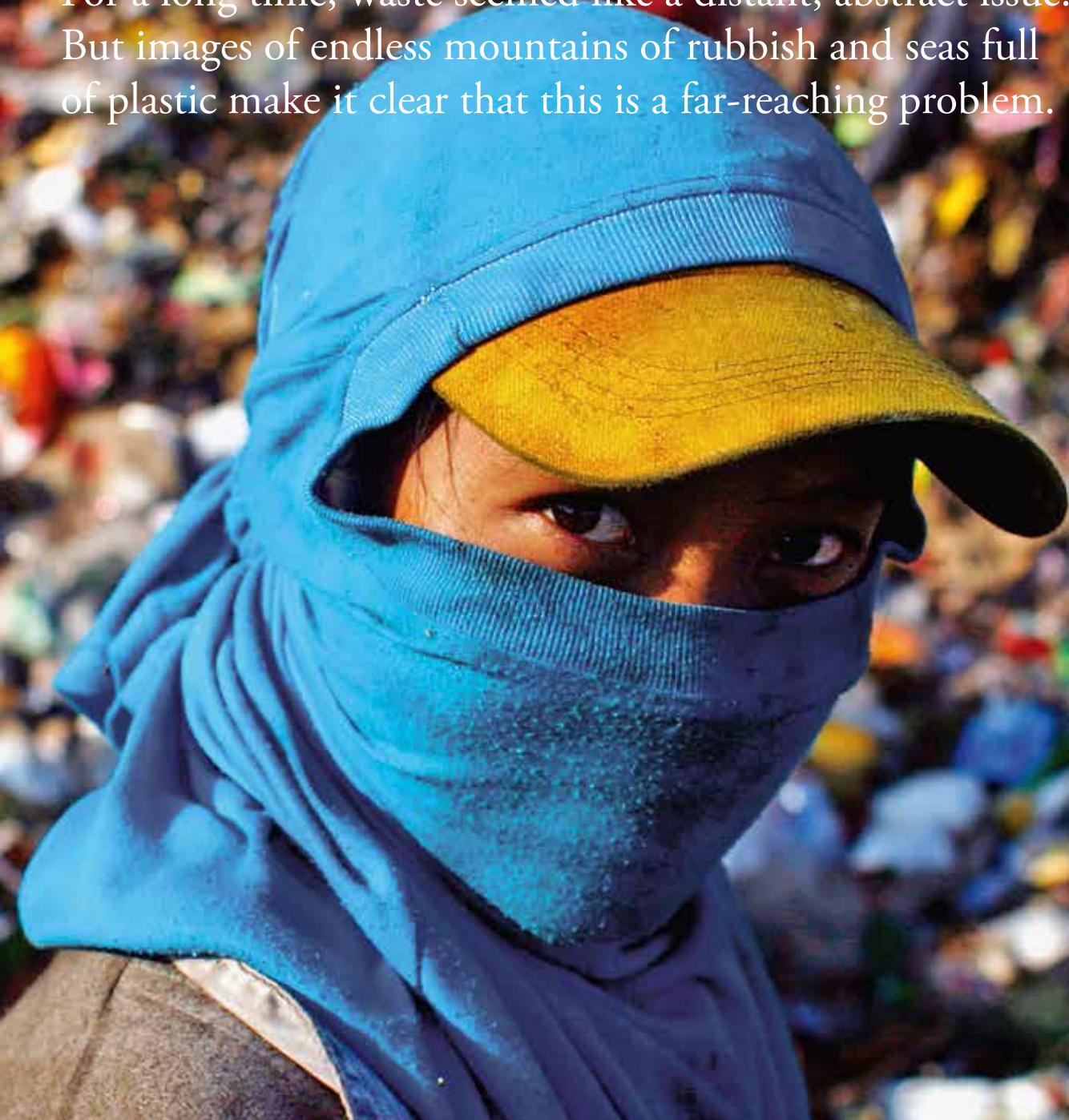
**THOMAS WAGNER** works as a photojournalist in Colombia.



IN FOCUS

# WASTE

For a long time, waste seemed like a distant, abstract issue. But images of endless mountains of rubbish and seas full of plastic make it clear that this is a far-reaching problem.







#### REPORT

## Kick-off at the scrapyard

How new approaches to recycling are emerging at Ghana's massive Agbogbloshie e-waste dump. **p.18**

#### NEWS

## There is another way

Five examples show that we can do a lot of good with clever ideas and simple tools. **p.22**

#### GUEST COLUMN

## A circular approach

A guest column by State Secretary Jochen Flasbarth on the challenges and seemingly insurmountable obstacles of environmental policy **p.23**

#### ESSAY

## Throwaway lifestyles

Environmental journalist Joachim Wille looks at why marine litter isn't our biggest problem and how we can mitigate the impacts of the 'plastic era'. **p.24**

#### INFOGRAPHIC

## As far as the eye can see

A look at our planet proves that waste doesn't recognise borders. **p.30**

#### INTERVIEW

## 'The time to act is now'

Professor Maria Cristina Fossi discusses plastic in our oceans and the ramifications of marine litter. **p.32**

#### BACKGROUND

## Global network for solid waste management

GIZ planning officer Judith Wolf on the wide range of tasks related to waste management and the circular economy **p.34**

#### EXAMPLES OF GIZ'S WORK

## Added value for many

GIZ waste prevention and recovery activities explained using five projects **p.35**

*In focus: Waste*



Images from Agbogbloshie. Trainer Zuna (above and left) trains other workers with former scrap dismantler Dazali.



# Kick-off at the scrapyards

Thousands of people work at the enormous Agbogbloshie e-waste dump in Ghana's capital, Accra. A new chapter is dawning for them with a technical training centre, a health clinic and a football pitch. Agbogbloshie is rethinking recycling.

Text PHILIPP HEDEMANN Photos VERONIKA JOHANNES

**N**o, don't do it like that. You could hurt yourself! Let me show you how to do it properly, Mohammed.' Rabbiu Dazali steps in when he sees his colleague about to smash open a printer using a heavy hammer to get to the valuable metals inside. Young men have been dismantling discarded electrical and electronic equipment (e-waste) in Agbogbloshie for more than 20 years. Located in Ghana's capital, Accra, Agbogbloshie is considered one of the world's biggest scrapyards. Old cars and metal parts, intermingled with piles of old mobile phones, monitors, fridges and notebooks, are strewn across the site, which is 15 hectares, or 21 football pitches, in size. The men strip appliances day in, day out. This arduous work is poorly paid, dangerous and makes people ill. It releases toxic substances, such as lead and cadmium, which end up in the air, soil and water. But for many, it is the only way to make money. On average, workers walk

away with EUR 155 each month – enough to survive in Ghana. Jobs are thin on the ground, especially for 15 to 24-year-olds. The unemployment rate among young people is around 14 per cent.

'Mohammed, if you just bash the scrap with your hammer, you might get hit by splinters, and battery acid might damage your skin and pollute the ground. And you'll also wreck things that we could sell,' says Rabbiu Dazali, who has been taking appliances apart in Agbogbloshie for years. Like most of the roughly 4,000 men working there, he comes from the poorer north of Ghana. He came to Accra with hopes of a better life and ultimately ended up working at the scrapyards as a dismantler.

## Waste contains valuable and toxic materials

To ensure that e-waste in Agbogbloshie is disposed of and recycled using eco-friendly methods in the future, GIZ launched a pro-

ject in Ghana in 2016 on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). The goal is to support Ghana's Ministry of Environment, Science, Technology and Innovation in improving conditions for sustainable e-waste management and disposal. More and more people are buying televisions, mobile phones and computers in Ghana as well. The West African country imports a lot of second-hand appliances from regions including Europe.

However, an estimated 15 per cent of these appliances are already broken when they enter the country. This imported and 'home-grown' scrap – at least 17,000 tonnes each year – ends up in Agbogbloshie. The e-waste contains valuable and scarce resources, such as copper, gold and aluminium, but also toxic substances such as heavy metals and mercury. And yet, at present, Ghana has hardly any environmentally friendly, efficient methods for dismantling, recycling and disposing of this e-waste.

## In focus: Waste



The project makes a contribution to the adjacent United Nations Sustainable Development Goals (SDGs).

Burning cables, for example, produces toxic gases, and greenhouse gases are released if refrigerators are not dismantled properly. Thousands of people earn a living in this environment. In an effort to improve working and living conditions, the GIZ team listened carefully and talked to the workers at the site, most of them men. More than anything, workers wanted medical care and opportunities to learn about advanced recycling. And they really wanted a football pitch. These three wishes became reality in early 2019 when a well-equipped technical training centre and a modern health clinic were opened. And goalposts stand on a field that is now free of rubbish – where lively football matches are played.

‘Workers and scrap dealers suffer from many health problems, such as cuts, skin ailments and respiratory diseases. They can better protect themselves by learning how to employ environmentally sound recycling methods,’ says Professor Julius Fobil from the University of Ghana, who has spent years researching health risks in Agbogbloshie. Since most workers do not have health insurance, they cannot afford to be treated at a hospital or visit the doctor. They don’t even have the money to pay the bus fare to the doctor’s. The health station run by the Ghanaian Ministry of Health will provide workers with low-cost basic health care on-site.

‘It’s high time that we get better medical treatment,’ says Rabbiu Dazali, recalling the different ways that working at the scrapyards has affected his health. ‘I used to have headaches, skin irritations, back problems, shortness of breath and cuts – but I really had no other option,’ recounts the 39-year-old, who now sells aluminium, copper, brass and spare parts in a small shop in the middle of the scrapyards. Nowadays, younger men like Mohammed dismantle appliances for him. To make sure that his colleagues and friends do not ruin their health carrying out this strenuous work, Dazali joined eight other men and women on a two-month course at the new technical training centre. GIZ experts trained participants in how to teach safe and sustainable dismantling techniques for e-waste. Now he and the other course participants are passing on what they have learned.



**Top:** Sandy Agbottah shows off his 3D printer, which he assembled using parts from the scrapyards.

**Bottom:** Before/after: The football pitch is just one impressive example of the change that is under way in Agbogbloshie.



Fawzia Mohammed Zuka has also completed this training course. She is employed by a Ghanaian environmental protection organisation and has never worked as a dismantler. At the new training centre, this confident 26-year-old shows workers how to safely extract valuable materials, such as copper, aluminium and gold, from scrap appliances using the right tools and precise movements. This approach is not only more environmentally friendly; it also increases yields. 'The training course taught me everything that dismantlers need to know and do. Now I can teach them how to protect themselves at work and how to improve their income. That's exactly what they want to learn, so they take me seriously,' she explains.

### A 3D printer made out of scrapyards parts – for EUR 55!

Sandy Agbottah can often be found at the scrapyards as well. He views this gigantic complex as a treasure trove for electronics rather than as a scrap heap for e-waste. The electrical engineering student bought all of the parts he needed for the first ever 3D printer 'made in Ghana' in Agbogbloshie. He paid 320 Ghanaian cedi, just EUR 55, for more than 50 parts. Bought new, they would have cost up to EUR 1,700 – well beyond the student's budget. He developed his 3D printer, screwed together out of scrap parts, with Impact Hub Accra, which is part of a global network and cooperates with GIZ. Located in more than 50 countries, these impact hubs serve as catalysts to promote local businesses seeking to create added social and environmental value.

'Until now, we Ghanaians have only been buyers of imported appliances. My dream is that we will become high-tech producers ourselves. And for that to happen, we need 3D printers. They can help people to look at and understand any idea. 3D printers remove barriers to imagination and creativity,' says the 22-year-old, who wants to go into the world of research after completing his studies. He plans to teach students electrical engineering and organise robotics competitions on the side. In these competitions, teams build

## IN FIGURES

Ghana recorded a **6.3 per cent** growth in its economy in 2018 – ranking the country as a leader in Africa.

**30 million residents** experience significant variations in income between the more prosperous coastal region and the north of the country.

Source: World Bank 2018



## IN WORDS

**'In this pilot project, we are supporting a scrap dump as it undergoes a transformation from the inside out.'**

MARKUS SPITZBART,  
HEAD OF THE E-WASTE PROJECT  
IN GHANA  
MARKUS.SPITZBART@GIZ.DE

YOU CAN READ AN INTERVIEW WITH HIM  
AT AKZENTE.GIZ.DE

robots to carry out specific tasks. In Agbottah's vision for the future, all of the parts for the robots will be sourced from modern recycling enterprises in Agbogbloshie.

These parts might even come from Rabi-Dazali's shop. The shop owner is already seeing significant changes. 'There is already less cable burning happening here, fewer dismantling injuries and fewer toxins ending up in the environment,' says Dazali who, like most dismantlers, lives nearby in the Old Fadama slum. He has met a number of journalists from all over the world in the past few years. In their reports, many describe Agbogbloshie as 'hell on earth' because of the dangerous working conditions and devastating environmental damage. Dazali hopes that they will return one day to take a fresh look for themselves: 'Reporters will not recognise Agbogbloshie. It is true that things used to be bad here, really bad even. But a lot is changing now and we can become a real role model for the world when it comes to recycling.' —



VERONIKA JOHANNES

grew up in Ghana and studied visual communications and photography in Berlin. Nowadays she advises the e-waste project in Ghana on internal and external communications.



PHILIPP HEEMANN

works as a freelance correspondent. He has got to know the Agbogbloshie scrapyards on several trips to Ghana.

# There is another way

Five examples from all over the world show that we can achieve a lot of good with clever ideas and simple tools.

## Talking waste bins

**SENSORS** Everybody's talking about sorting and recycling waste, but nobody thinks about how to transport waste efficiently. This rationale was the driving force behind the Finnish start-up Enevo, whose technology makes waste bins smart and able to communicate. The company developed a fist-sized sensor that is installed underneath the lid of waste containers. This device measures container fill levels on an hourly basis. The sensor then uses wireless technology to send a report that the container is full and needs emptying – but only once all of the space has been used. This saves time and energy, and cuts costs by up to 40 per cent. –



## Pesto made out of carrot tops

**FOOD** 'Love Food Hate Waste' is a charitable initiative in the UK. The name says it all: the campaign urges people not to throw away any food at all and features original recipes on its website – soups made out of potato peel and cauliflower leaves, and carrot top pesto. These are just a few of the tips posted, encouraging people to use all parts of food before it goes bad ('compleating') – including any skins, stalks, leaves and crusts. After all, the Food and Agriculture Organization of the United Nations reports that approximately 1.3 billion tonnes of food is thrown away each year. –

## From cradle to cradle

**SYSTEMIC CHANGE** Michael Braungart from Germany and William McDonough from the US came up with the concept of 'cradle to cradle' in an effort to eliminate waste and recycling. According to this concept, product components should be capable of having their technical and/or biological nutrients fully reused and recovered. One idea is for compostable clothing or appliances to become telephones or chairs in another life. The trick? The subsequent use of these goods is taken into account during the design phase. –

## New waste alliance

**ALLIANCE** At the start of May, BMZ and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) launched the PREVENT waste alliance. Their goal: to take action to fight mountains of rubbish and to promote the circular economy. The coalition had more than 30 members from the private sector, civil society and academia when it was formed. All of these stakeholders are dedicated to preventing, collecting and recycling in developing countries and emerging economies, and increasing the uptake of secondary raw materials. GIZ manages the alliance's secretariat. –



## A colourful voyage

**FLIPFLOPI** A special kind of dhow is currently sailing along the west coast of Africa (see above): Made completely out of flipflops and other types of plastic waste, this boat sails between Kenya and Zanzibar. FlipFlopi is brightly coloured, nine metres long, made out of 10 tonnes of waste and a world first. It aims to shake people into action, teach them about wasteful use of plastic and make it clear that there are many creative opportunities for already-used plastics. Just a fraction of this plastic is recycled at present. –



# Coming full circle: A circular approach to our thoughts and actions

By State Secretary JOCHEN FLASBARTH



PHOTOS: BETTY IMAGES/ISTOCKPHOTO (P. 22, MIDDLE), BUNDESGERICHTUNG/SANDRA STEINS (P. 23)

**T**he challenges, limitations and sometimes even tragic nature of environmental policy are particularly evident in connection with a number of issues. Marine litter is one of them. Intellectually, we know what we must do to keep our planet in good shape and preserve quality of life in the long run, but seemingly insurmountable obstacles appear to block progress in this direction. In my experience, most of these obstacles stem from ignorance and a lack of understanding, from people not having a sense of responsibility or having the wrong priorities.

Humankind produces more than 2,000 million tonnes of municipal solid waste each year – and this number is rising. Figures this large are beyond anything we can imagine. Yet the real issue is not even the sheer volumes involved, but their negative environmental

impacts. Before polluting the environment, many thousands of tonnes have been extracted from the earth as raw materials and turned into products – often in the most deplorable social conditions and consuming a great deal of energy in the process.

Nonetheless, these items are thrown away without a second thought, sometimes after just a short period of use. This production model has major consequences, resulting in greenhouse gas emissions, destroyed water bodies and water reserves, massive energy wastage, vast resource depletion and a loss of biodiversity.

**‘The waste hierarchy teaches us that it is best to prevent waste and to always prioritise recycling over landfilling.’**

I intend to change current production and consumption models so that human intelligence is dedicated to protecting rather than destroying our natural resources. At the heart of this mission is a shift from linear to circular material streams. The problems involved are pernicious, as can be seen in many places. Waste is piling up in ever-higher mountains, especially in emerging economies and developing countries, because it is not returned to the economic cycle. Vast amounts of plastic litter are entering the Earth’s oceans via the world’s ten biggest rivers.

We can only tackle these issues by establishing a real circular economy. The waste hierarchy teaches us that it is best to prevent waste and to always prioritise recycling over landfilling. For this to happen, a country’s specific circumstances must be taken into account and different regional solutions must be found. Simply exporting technology is not enough. In fact, we may also need to bring the informal sector on board, supply knowledge and expertise and support the creation of the required administrative structures. GIZ has been working in this field for many years, including with support from BMU.

The international PREVENT waste alliance, which was recently publicly unveiled by BMZ and BMU, will give an even stronger boost to this approach in future. It seeks to help prevent waste and to establish recycling schemes around the globe. For instance, the German Parliament has allocated BMU EUR 50 million to combat marine littering, which we will use to support key projects. However, it is also clear that good governance on the part of recipients is critical for projects of this kind to be successful.

Not a single country in the world has already achieved an ideal circular economy. But we can share our experiences with partners wanting to move in the same direction. The waste alliance will help to demonstrate the benefits of the circular economy. BMZ and BMU are working hand in hand here to overcome seemingly insurmountable obstacles. —







# Throwaway lifestyles

Humans seem to be drowning in their own waste. The problem is most obvious with plastic waste, but metal, mercury, lead, rare earth elements, construction waste and plaster also end up on the rubbish heap – stretching our planet to its limits. A consistent circular economy and new consumption patterns could ease the situation, concludes environmental journalist **Joachim Wille**.

Illustrations: Florian Bayer

**D**ispose of disposables!' That is the basic tenor of the headlines emerging from the European Parliament this spring. Good news! Europe is leading the way in the fight against the plastic waste that is turning beaches and oceans into rubbish tips. Members of the European Parliament voted to ban ten frequently sold single-use plastic products as of 2021. They include cotton buds, drinking straws, disposable cutlery and plates and expanded polystyrene containers. These throwaway products are all among those most often found on the beaches of 17 EU member states.

But there is still a long way to go. While banning single-use plastic products is a step in the right direction, its impact is minimal given the overall situation. These throwaway products make up only a very small percent-

## IN THIS ARTICLE

### 1. THE STATUS QUO

Where we stand and why the EU regulations on single-use plastic items do not go nearly far enough.

### 2. THE PROSPECTS

How people are increasingly destroying the resource base on which they depend.

### 3. THE VISION

What approaches are there to address our gigantic waste problem sustainably.

age of total plastic consumption. In Germany, Europe's largest economy, they account for a total of about 105,000 tonnes, whereas three million tonnes of plastic packaging was used over the same period. After a short time, most of this packaging also ends up as waste. That means that the globally applauded EU regulation is reducing this torrent of plastic waste in Germany by only three per cent.

The ban on single-use plastics is only a partial solution to a partial problem. Even if the EU's move is copied on other continents, it is nowhere near enough. Not to protect beaches, not to stem the growth of the gigantic collection of plastic in the world's oceans, and not to end the microplastic contamination of our seas and oceans. This is invisible and much of it comes from other sources, including tiny fragments of vehicle tyres. The main prob-





lem is the waste of resources caused by the huge quantities of cheap plastics on the markets, which also contain an entire laboratory of chemical additives. The EU's 'waste strategy' does little or nothing to solve these problems.

### Dramatic development since the advent of the plastic age

One thing is certain – the volume of waste is growing worldwide, in industrialised countries as in developing countries – not only, but particularly, plastic waste. Since the advent of the plastic age in the 1950s, around eight billion tonnes of plastic have been manufactured worldwide. Currently, global annual production is just under 400 million tonnes, which is roughly equivalent to the weight of two thirds of the people living in the world today. Experts believe that the quantities produced could quadruple by 2050 if no action is taken to change this course.

Quite apart from the photos of the the world's five major ocean gyres and the seabirds, turtles and whales that have died after dining on a menu of plastic, the con-

**'Our planet is drowning in waste. This is every bit as dramatic as climate change. The flood of waste is as clear an illustration as possible that we are stretching the ecological limits of Earth to breaking point.'**

sequences of the torrent of waste are dramatic – especially in developing countries. Unsecured landfills contaminate drinking water, burning waste does the same to the air people breathe, and solid waste blocks drainage channels, increasing the threat of flooding.

Our planet is drowning in waste. This is every bit as dramatic as climate change. The flood of waste is as clear an illustration as possible that we are stretching the ecological limits of Earth to breaking point. Scientists are already talking about the Anthropocene, the epoch dating from the start of significant human impact on the planet – in the form of climate change, soil erosion and the destruction of virgin forests, to name just a few examples. The true impact of the Anthropocene only becomes clear, however, if we understand it as the age of waste. Geologists in thousands of years will still find it easy to date the start of this new era, thanks to the fragments of plastic that have found their way to every corner of the earth over the last 70 years, all the way to the frozen wastes of the Arctic and the peaks of the Himalayas.

### An entirely new scale of waste

People have always produced rubbish. It only started to become a problem during the Neolithic revolution, when arable farmers began to settle, and settlements grew and grew. In what is today the Middle East, the first mountains of waste accumulated, with layer upon layer of rubbish, because sooner or later there was no more space. Turkey, Lebanon and Syria are full of the remains of ancient middens, Troy being the best known example. Even in New York, archaeologists have discovered that the streets of Manhattan are almost two metres higher today than they were 350 years ago – the Big Apple stands on foundations of trash and rubble.

Today, however, we are facing a new dimension of waste problems, because the number of people on the planet is rising exponentially, because people around the globe are copying the resource-intensive lifestyle of the first countries to industrialise, and because modern waste contains



contaminants that have no place in the biosphere. Moreover, plastics account for ‘only’ 12 per cent of global waste. The rest is made up of an extremely wide variety of other materials – from cigarette butts in the gutter to metals and materials like rare earth elements, which are valuable but are still thrown away, to hazardous toxins and nuclear waste. Industrial waste is becoming an increasingly worrying problem, too, with slags, plaster and silver foil. The electric waste spawned by rampant digitalisation in particular is in a class of its own. This waste is difficult to recycle and contains toxic substances including mercury and lead.

Another problem that tends to be ignored is that some waste directly compounds the greenhouse effect – like coolants used in refrigerators, which are often incorrectly disposed of, and insulating foam, which is produced using gases that are bad for the climate. Even organic waste turbocharges climate change if it is buried along with other waste in landfills, creating the necessary anaerobic conditions for the production of the greenhouse gas methane.

### An enormous waste of raw materials

Environmental scientists have described our modern production patterns as a massive machine to destroy raw materials, in which products or services are more or less a by-product. In industrialised countries, nearly 100 tonnes of non-renewable raw materials are used per capita every year, according to the recently deceased resources expert and former deputy director of the think tank the Wuppertal Institute (Wuppertal Institut für Klima, Umwelt, Energie), Friedrich Schmidt-Bleek. That is between 30 and 50 per cent more than in the poorest countries of the world.

This becomes an ecological problem primarily because on average, more than 90 per cent of the resources moved in and taken from the natural environment end up as waste en route to production and after products have been used. Recycling quotas are low. Even in highly developed European economies, for instance, no more than 13 per cent of resources enter the circular econ-

**‘As with climate change, a radical turnaround is needed in the way we use raw materials. Waste must be drastically reduced in manufacturing, consumption and solid waste management.’**

omy. Globally, this figure is just seven per cent.

### The answer must be to make better use of materials

The key to ending the high level of resource consumption and therefore also the torrents of waste is to achieve better resource productivity – i.e. to make more effective use of the materials to produce the services required. According to Schmidt-Bleek, global resource use must be halved at least. In industrialised countries, consumption will have to drop to just one tenth of the current level. Plans are in place in many areas – in the transport sector, for instance, these savings and more can be achieved by leaving cars at home and cycling instead. Up to now, there have been no consistent efforts to put these plans into action. This is partly because the prices of raw materials are too low and do not reflect the ‘ecological truth’, as former German Federal President Richard von Weizsäcker put it. In Germany, per capita consumption of natural resources has actually risen again over the last few years.

As with climate change, a radical turnaround is needed in the way we use raw materials. Waste must be drastically reduced in manufacturing, consumption and solid waste management. Eco-intelligent product design can facilitate high-level reuse and recycling within a circular economy. To date,









the EU's Ecodesign Directive focuses only on energy efficiency. In the future, we must also take into account material efficiency, service life, recyclability and reparability. Taxes on raw materials must be at a level that is felt, and rigorous recycling is needed along with a change in consumer practices.

### Leasing rather than buying

New business models can also be an important tool, with products like household appliances no longer being sold but leased for a certain period. The advantage of this is that manufacturers retain ownership of their products and therefore design them to ensure optimum reusability and recyclability. The aim is to have a virtually closed circular economy. But consumers, too, must do their bit. The way we purchase can definitely influence the way resources are used. Consumers can buy long-life products rather than products that are destined to go more or less straight from the factory to the rubbish tip. They can use exchange platforms for home furnishings, clothing and tools. They can take their own bags, baskets or rucksacks when they go shopping and buy unpackaged goods as much as possible.

However, we will need to do more than this if we are to address the acute plastic crisis. Experts believe that the most spectacular problem, worsening marine litter, can be resolved. This would require proper collection and recycling systems for plastic waste to be set up in developing countries – according to the World Bank, 90 per cent of waste is simply thrown away or randomly burned in poor countries. The majority of the plastic waste that ends up in the world's oceans comes from Asian and African states including China, Indonesia, the Philippines, Egypt and Nigeria, entering the oceans via just ten major rivers. These measures could put a stop to this. By contrast, it is deemed to be difficult, if not impossible, to remove waste from the oceans once it is there.

Unfortunately, the main producers of waste still lack awareness of the problem, although encouraging decisions have been taken. India, for instance, has voted to ban single-use plastics from 2022. Kenya has

**‘Consumers, too, must do their bit. The way we purchase can definitely influence the way resources are used. Consumers can buy long-life products rather than products that are destined to go more or less straight from the factory to the rubbish tip.’**

ended the use of plastic bags, and Israel has halved the number of plastic bags in the sea. But of the main problem countries, only Indonesia and the Philippines have signed up for the Clean Seas campaign launched by the UN in 2017, demonstrating that a lot needs to happen before the awareness of the danger posed by plastic matches the awareness of climate change.

### The goal is binding international rules and regulations

Nevertheless, the goal must be to adopt an international agreement, binding under international law, which commits governments to end plastic pollution. Not only in our seas and oceans. The key must be avoiding plastic, ensuring multiple use where it is unavoidable, and putting in place a closed circular economy for plastic. The Berlin-based expert Nils Simon has presented a proposal, based on the Paris Agreement on Climate Change. It includes a convention with a binding overarching goal in conjunction with national action plans. Forging ahead with this plan would be beneficial, not least for the EU, which has already become a forerunner in the field of international climate action. —



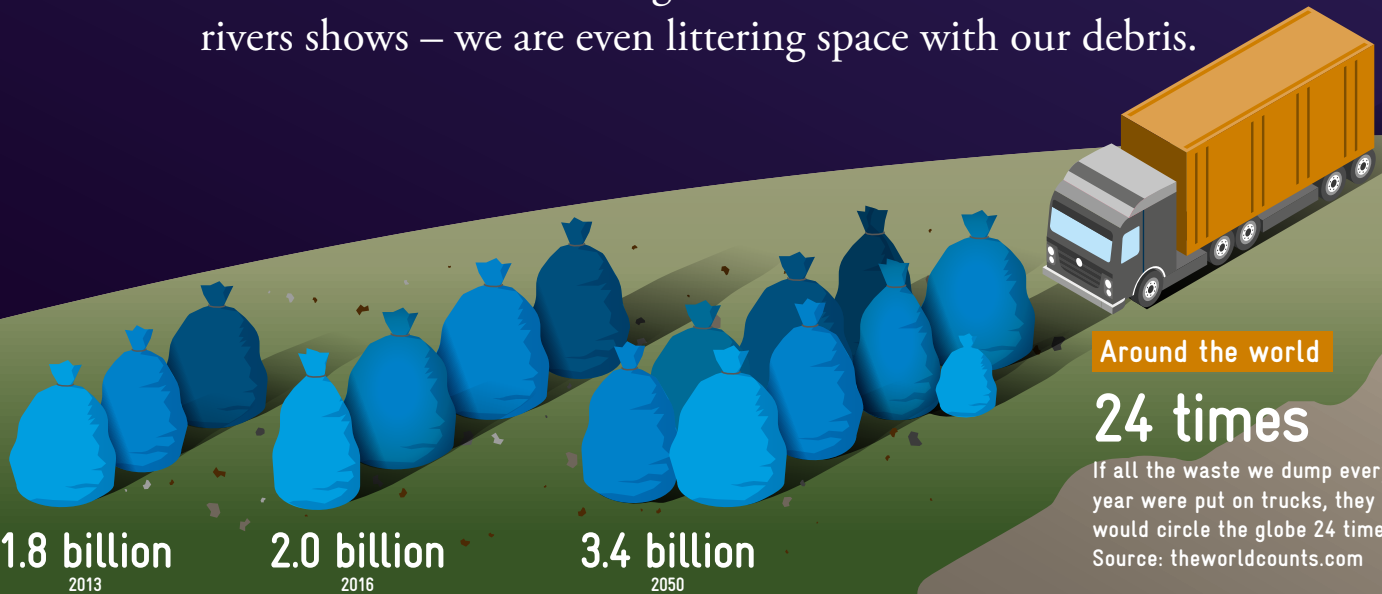
JOACHIM WILLE

is the editor in chief of the online magazine Klimareporter. He also writes for the Frankfurter Rundschau, the Kölner Stadtanzeiger and specialist media. In recognition of his work, he has been awarded the Bundesverdienstkreuz (the Cross of Merit), the Umwelt-Medienpreis, awarded by Environmental Action Germany (DUH) for excellent reporting in the field of conservation of natural resources, and the environmental prize for journalists (Umweltpreis für Journalisten), awarded by the Berlin-based Deutsche Umweltstiftung.



# As far as the eye can see

Waste knows no borders, as a glance at the world's cities, seas and rivers shows – we are even littering space with our debris.



## Growing mountains of rubbish

Every year, the world produces more than two billion tonnes of domestic and industrial waste (2016). In 2013, this figure was 1.8 billion, and unless radical changes are made, the volume is set to rocket to 3.4 billion tonnes by the middle of this century. Around 0.7 kg of waste is generated per capita every day. The actual quantities produced vary on a global scale from 0.1 to 4.5 kg. Sources: World Bank, The Economist

## The textile industry

The United Nations has calculated that the average consumer buys 60 per cent more clothes today than 15 years ago, while garments are worn for only half as long. As a result, the mountain of second-hand clothes just keeps growing.



## Nuclear waste

**35 million**

There are more than 450 nuclear power plants around the world but only one safe final disposal repository (in Finland). It is estimated that 35 million cubic metres of radioactive waste already exists, most of it in temporary repositories. And new nuclear power plants are constantly being commissioned. At least 50 are currently being planned or built. Sources: IAEA, Statista



## Cigarette butts

**680 million**

Every year, cigarettes are responsible for up to 680 million tonnes of waste. It is more than just an aesthetic problem. Cigarette butts contain microplastics and take about 15 years to biodegrade. Source: WHO



### Space junk

A large amount of waste now orbits the Earth together with satellites. Around 20,000 larger objects and up to 900,000 parts as small as a centimetre are racing through space, where they pose a serious hazard for satellites and space stations. Source: Helmholtz Centre for Materials and Coastal Research, Geesthacht

400 million  
2000

1 million  
1930

2.2 billion

### Building boom

The global population is expanding – and with it the number of construction projects. This means a rise in construction waste, including concrete, stones, bricks and gravel. Most of this ends up on landfills rather than being recycled. It is estimated that these quantities will double by 2025 to 2.2 billion tonnes a year. Source: Transparency Market Research

### Chemicals

The quantity of hazardous chemicals is increasing continuously, and has now reached a total of over 400 million tonnes a year. In 1930, this figure was just one million tonnes a year – a dramatic rise. Source: WWF

### Disposal

In poorer states, 93 per cent of waste ends up on open, often unsecured rubbish dumps, on the streets or in rivers. In industrialised countries, this is just two per cent. These states, however, generate 34 per cent of global waste although they are home to only 16 per cent of the global population. Source: World Bank

### Computers, etc.

In this age of digitalisation, the volume of electric waste is also rising, and has now reached 44.7 million cubic metres a year (2016), equivalent to roughly 4,500 Eiffel Towers. Many electronic devices that are no longer used end up in developing countries. Source: The Global E-waste Monitor 2017

93%

**MARIA CRISTINA FOSSI**

researches the impact of plastic waste on marine life in the Mediterranean Sea as part of the marine protection project Plastic Busters MPAs. The interview was conducted while she was on a four-week research expedition.





# ‘The time to act is now’

**Maria Cristina Fossi** is professor of ecology and ecotoxicology at the University of Siena, specialising in marine life. She is also the scientific coordinator of a project called Plastic Busters MPAs.

Interview: Friederike Bauer

**T**he world’s oceans already contain an estimated 100 million tonnes of plastic and waste. How does that affect them?

Right now, the relation of plastics to fish in the world’s oceans is one to five but it is expected to be one to one by 2050. The litter can impact marine wildlife in several ways: through ingestion or entanglement, transportation of organisms on litter items, damage to the seafloor or reduced oxygenation of species. But it can also release toxic compounds. Unfortunately, most of the impacts on marine wildlife are yet to be fully understood – and thus of key interest to me as a researcher. But we do know that more than 800 animal species are seriously affected.

**What does this plastic do to marine fauna and flora according to your present knowledge?**

It starts with macroplastics – pieces that are clearly visible, like nets or bottles. With time, these macroplastics degrade, becoming more difficult to see though they are still present in our oceans as microplastics. These might follow several paths, all potentially harmful for marine wildlife: they can be eaten by filter-feeding organisms like mussels as well as by commercial fish species that we later consume. They might be colonised by microorganisms such as bacteria and act as vehicles for their dissemination at

distances beyond their usual range. Or they could further degrade, thus releasing chemical compounds influencing both the water quality and the health of ecosystems and marine wildlife. To find out more about microplastics, whales can serve as bio-indicators because they filter huge amounts of water every day.

**Have microplastics already entered the food chain? Do we already eat poisonous fish?**

This is a much debated issue, especially because it closely affects our lives. However, there is no scientific evidence as yet of the effects of plastics on humans. This does not mean that there could be no effect, though.

**How much time do we have to turn the situation around before we irreversibly endanger the oceans?**

Oceans with the same share of plastics and fishes are undesirable. And that scenario is not far away; 2050 is around the corner. According to the planetary boundaries concept, the window of opportunity to avoid a permanent destabilisation of key ecosystems is much shorter than originally thought. Perhaps five to ten years? Perhaps even less. From a scientific point of view, this is not easy to say at the moment. But we definitely know that time is running out. The failure to intervene and preserve the critical processes of our planet could trigger a cascade

effect and seriously harm human existence on Earth.

**What are the possible solutions from a scientific point of view?**

We first have to gain more insight and understand all the correlations and impacts of which we are not yet fully aware. I am part of the EU-funded project Plastic Busters MPAs conducted in the Mediterranean region, which also received invaluable support from GIZ at its inception. We first monitor marine litter and find out where it tends to accumulate. Secondly, we will compile possible measures to prevent, reduce and mitigate marine litter. Together with the authorities of a selected number of protected areas, we will then test potential solutions on the ground, which will ideally be replicated across the whole Mediterranean. And hopefully they will be part of the wider EU policy context and activities. I am thinking for example of the Circular Economy Package and the ban to use single-use plastic items starting from 2021.

**Most of the remedies envisaged so far take quite a lot of time, time that we don’t have. Is there anything that could be done in the short term?**

I can answer with just three words: reduce, reuse, recycle. On top of this, I would add increasing the environmental awareness of people everywhere and across all levels of society.

# Global network for solid waste management

Reduce, reuse, recycle – as much and as efficiently as possible. These goals are the focus of GIZ’s work with waste. This protects habitats and reduces greenhouse gases.

By JUDITH WOLF

Marine litter demonstrates most clearly that waste knows no borders. The fragments of plastic waste floating in the oceans demonstrate the international dimension of the problem. And the urgent need to establish a sustainable circular economy. In its capacity as a service provider to the German Government, GIZ is working to achieve this important goal. For more than 30 years, we have been working with our partners worldwide to implement projects in the waste sector. GIZ cooperates with municipal authorities, industry associations, national authorities, ministries, universities, NGOs, the private sector – and informal waste pickers, who often play an important role in collecting, reusing and recycling materials. Our primary solid waste and recycling projects portfolio has expanded significantly, with annual growth rates of around 60 per cent between 2016 and 2018.

Initially, the goal in many partner countries was to establish a proper solid waste management system, i.e. organising waste collection and transport, and eco-friendly storage of solid waste. Even in the late 1980s, we did not focus purely on technical cooperation, but adopted a broader approach with solid waste management plans and the first recycling initiatives. Back then, waste was still seen as a local issue. But that changed, and with it our work. The international dimension of waste has become



JUDITH WOLF

GIZ planning officer, specialising in solid waste management and the circular economy  
[judith.wolf@giz.de](mailto:judith.wolf@giz.de)

increasingly apparent. Partly because large quantities of waste are now transported across borders, and waste is not necessarily recycled where it was produced. And partly because marine litter has demonstrated that it is not a local problem when waste is washed into our rivers and carried out to sea. This is precisely the focus of our cross-border projects, such as one measure involving Albania, Bosnia and Herzegovina and Montenegro in efforts to reduce waste in the region’s rivers and therefore in the Adriatic Sea.

Solid waste management also plays an important role in efforts to achieve international climate targets. This can be seen,

for instance, when untreated organic waste is dumped in landfills, producing methane gas, which is about 25 times more harmful for the climate than even CO<sub>2</sub>. Improved management throughout the life cycle of a product could cut greenhouse gas emissions in emerging economies and developing countries by 10 to 16 per cent, according to the German Environment Agency (UBA).

That is why we focus on reducing waste in our partner countries, and establishing a circular economy in which raw materials are used efficiently and resources are conserved. Ideally, this involves reusing or recycling all waste. This can be done directly to generate energy, with biogas plants one option. The ability of societies to conserve resources and deal efficiently with raw materials will be crucial in the future.

Producers and packaging manufacturers are being involved in the waste debate more and more. It is up to them to ensure that single-use plastic items disappear from use, that as little waste as possible is produced and that the rest can be easily recycled. To this end, we are working with the private sector in Tunisia to draft legislation that will introduce a system known as extended producer responsibility. Here too, GIZ has long-standing experience and contacts, to ensure that essential resources are conserved through sustainable economic activity. —



# Added value for many

When waste is recycled, it is not only the environment that benefits. The circular economy provides income, conserves natural resources and generates power.

## Anti-waste agenda

Proper separation and collection of waste are an essential requirement for efficient reuse and recycling. GIZ works worldwide to establish and integrate these processes, on behalf of the German Government and in cooperation with many partners. We take into account environmental, economic and social factors. The first step, however, is to reduce the amount of waste generated in the first place. This is vital given that the availability of natural resources is limited. —

# 25%

**WASTE COLLECTION** Kosovo is Europe's youngest state, and many local services are still in their infancy. On behalf of BMZ, GIZ is supporting the introduction of an economically viable and environmentally sound solid waste management system. In just four years, the organised system of waste collection was expanded to cover more than three quarters of all households. 75,000 children are involved in waste separation through their schools. —

# 22,000

**INTEGRATION** The arrival of hundreds of thousands of refugees from Syria was a huge challenge for local authorities in Jordan. More people also meant more waste in a very short space of time. On behalf of BMZ and the EU, GIZ has expanded the solid waste management system in Jordan. We are also supervising a recycling plant in the Zaatari refugee camp. Eight recycling centres and two composting plants have been set up at local level, and 22,000 refugees and local people have been trained and employed. —

## Biogas from waste

**ENERGY** Mexico's energy requirements are rising by around four per cent per year. Previously, power was largely generated from oil, coal and gas, but now the emerging economy is also using organic household waste. GIZ is supporting Mexico in developing the use of biogas plants. Six pilot projects are transforming a total of half a million tonnes of organic waste into power. A national biogas federation was founded at the end of 2018. —



# 100,000

**SORTING** In the Indian city of Gurugram near Delhi, colourful bins now feature on every street. Since the end of 2016, the municipal authority has been promoting waste sorting and separation with the support of GIZ as part of a develoPPP.de partnership with Coca-Cola India and Tetra Pak India. The project, which involves sorting, collecting and reusing or recycling waste, is benefiting a total of 100,000 people in 9,000 households, 50 schools and 50 commercial enterprises, and improving the working conditions of 500 informal waste pickers. —

## Producers at a glance

**LEGISLATION** Tunisia aims to make manufacturers and traders responsible for products and packaging. The basic idea is that those who market goods are responsible for ensuring that the materials they use can be efficiently reused or recycled. The concept to reduce the quantity of waste generated is known as extended producer responsibility. GIZ is working with the private sector as part of BMZ's develoPPP.de programme to assist Tunisia in getting the new system up and running. —







## KICKING UP DUST

**DROUGHT** Traditional clay jugs smash into pieces on the parched ground in Ahmedabad during a protest by local women against the shortage of water in their region. The situation in India is alarming: in the first half of 2019, more than 100 people died as a result of extreme temperatures in excess of 50 degrees Celsius. In an attempt to avert the worst, the city of Ahmedabad has now drawn up an action plan. A similar heat wave killed 1,300 people here in May 2010.

**Photo:** REUTERS/Amit Dave



*Report*

# WATER MUSIC

Correct hand-washing techniques save children's lives. In the Lao PDR, South-East Asia, hygiene training has been integrated into everyday school life – to make sure that children stay healthy.

TEXT BRIGITTE SPITZ  
PHOTOS BRIGITTE SPITZ and GIZ



**HAVING FUN**

The children sing and dance as they wash their hands and brush their teeth. This playful approach to hygiene is a great way to establish a strong routine. The Fit for School programme has been a great success in the Lao PDR and three other countries in South-East Asia.







Chino (4) shows us that you have to wash the back of your hands, too.

C

Chino is the picture of concentration when he washes his hands. At just four years old, he already knows exactly what to do. A quick rinse is not good enough. You need to use soap and do the seven steps. It's best to hum a little song as you go. This is what he learned at pre-school in the Laotian capital Vientiane, and at home he shows his little sister.

Such exemplary behaviour is by no means the norm in the Lao PDR – or anywhere else in the world! Although often neglected, even in developed countries, hand washing before meals and after using the toilet is an effective way of preventing the spread of diseases. In poor countries, regular cleaning is often difficult because many people have no access to clean water and washing facilities. This has serious consequences. According to UNICEF, around 1,400 children worldwide die every day from diarrhoea. Of these deaths, 800 can be attributed directly to poor hygiene. Every year, diseases caused by dirty water, inadequate sanitation and poor hygiene cause more deaths among children under the age of five than HIV/AIDS, malaria and measles combined.

In the Lao PDR, which is one of the least developed countries in the world, only half of the country's 6.9 million inhabitants have direct access to clean water. The resulting lack of hygiene has clear consequences: infectious diseases, malnutrition and tooth decay are the most common diseases affecting children in the Lao PDR. 'Children who are sick a lot often miss school, their physical development is delayed, and most families cannot afford to pay for treatment,' says Bouachanh Chansom, who runs a GIZ water, sanitation and hygiene programme in the Lao PDR. 'Fit for School' is supported by Germany's Federal Ministry for Economic Cooperation and Development (BMZ), and began as a pilot project in the Philippines in 2009. On behalf of BMZ, it was extended to Indonesia, Cambodia and the Lao PDR in 2011.

The idea behind 'Fit for School' is simple: schools need to be healthy places. Water and soap must be available so that the children can perform their daily hygiene routines together. Access to toilets and washing facilities is being improved, as are cleaning and maintenance standards. The GIZ team works with the education ministry in each partner country to develop viable strategies and practical training materials, and make it easy for head teachers and their staff to incorporate routine hygiene activities into everyday school life.

The project contributes to the following United Nations Sustainable Development Goals (SDGs):







**Left:** Always brush your teeth properly – nursery school children in the Lao PDR  
**Top:** Head teacher Khewavanh Manivong (right) with her colleagues at the hand-washing station  
**Bottom left:** If there is no running water, schools use a simple tippy tap system.



Video materials, specifically designed for each country, play a key role here. They are really important because they allow all those involved to keep updating their knowledge using their smartphones. GIZ’s country teams develop national monitoring systems with the respective education ministries to keep track of the number of participating schools and ensure that the programme is being properly implemented.

### EUR 1.25 for soap and a toothbrush

In the Lao PDR, the Ministry of Education, together with the Ministry of Health, adopted the ‘Fit for School’ approach at the end of 2011 and initially provided a small budget for 22 pilot schools – to allow the local education authority to construct or refurbish washing facilities, for example. Work began in the metropolitan area of the capital, Vientiane. As part of the overall strategy, the next step was to extend the programme to one school in each of the country’s 18 provinces. In just over seven years, almost 30 per cent of the roughly 8,700 state primary schools in the Lao PDR have got involved. The aim is to incorporate ‘Fit for School’ into school development plans, thus improving water and sanitation facilities and integrating good hygiene practices into everyday life at primary schools throughout the country.

‘At first, people in rural areas were sceptical. They worried that it was an expensive idea being imposed on them by people in the cities,’ recalls Chansom. But eventually they were persuaded by the results from the pilot schools, which showed that a great deal can be achieved to improve children’s health even with limited resources.

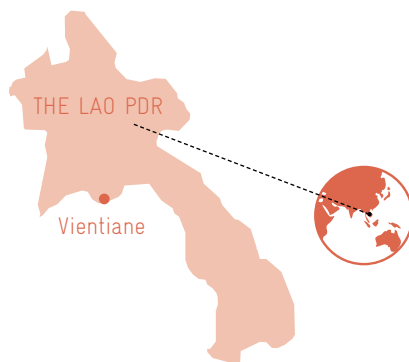
**Up close:** The children show their families what they have learned at school. That way, their parents can see just how much can be achieved for their children's health with a very small amount of money.

---

## THE LAO PDR

**Capital:** Vientiane / **Population:** 7.1 million / **GDP per capita:** USD 2,460 / **Economic growth:** 6.5 per cent / **Human Development Index ranking:** 139 (out of 189)

Source: World Bank 2018



'Fit for School' started in the Philippines. In partnership with the Southeast Asian Ministers of Education Organization Regional Center for Educational Innovation and Technology (SEAMEO INNOTECH), the programme was later expanded to meet demand.

**Contact: Alexander Winkscha**  
[alexander.winkscha@giz.de](mailto:alexander.winkscha@giz.de)

---

## THE PROJECT IN FIGURES

**14.9 million children**

attend schools in Indonesia, Cambodia, the Lao PDR and the Philippines where the 'Fit for School' programme has been introduced.

**39,600 schools**

participate in national initiatives to improve water, sanitation and hygiene (WASH) in educational institutions.

---



'The facilities are built using locally available materials,' she explains. In the poorest areas, where there are no water pipes, for example on the border with Myanmar or Viet Nam, plastic bottles were attached to bamboo poles fixed into the ground by villagers. Once the bottles are filled, the children simply turn them upside down to wash their hands with soap. These very simple devices are known as tippy taps. Families are asked to pay about 12,000 Laotian kip, roughly EUR 1.25, per child per year for soap, a toothbrush and toothpaste. 'For most, this is affordable, and the school pays anyway in cases of extreme poverty,' says Chansom, who is also a trained paediatrician.

The Laotian Government now wants to incorporate the 'Fit for School' approach into pre-school education for younger children. Chino attends the privately run Vanhuisa nursery in Vientiane. Here, even the very youngest children practise washing their hands and brushing their teeth correctly. Teachers from other schools have visited, eager to find out how the programme works. Head teacher Khewavanh Manivong believes there is now greater awareness of the issue: 'This period of childhood is extremely formative. Things children learn at this stage stay with them for the rest of their lives.' The two to six-year-olds have just sung and danced to their hand-washing song. At first, it's just a 'dry run', a playful way of teaching them





‘This period of childhood is extremely formative. Things children learn at this stage stay with them for the rest of their lives.’

KHEWAVANH MANIVONG, head teacher at Vanhuisa nursery school



You can find out more about the ‘Fit for School’ programme in the video on the akzente website: [akzente.giz.de/en](https://akzente.giz.de/en)

the various steps involved. Then they all troop off to the water pipe built by the school caretaker. The pipes have been painted blue, and water gushes out of a series of drilled holes when the main tap is turned on. The children rub soap into their hands and laugh about today’s guests. Some of the more daring children splash the visitors and play happily with the water.

### Severe tooth decay in nine out of ten children

After lunch, toothbrushes are handed out. Even for many children at this school, the daily routine did not previously include looking after their teeth, says the head teacher. However, because dietary habits have changed, especially in the cities, and children eat a lot of sweets, severe tooth decay is now very common. It can be found in nine out of ten Laotian primary age pupils, and on average, each child has seven rotten teeth when he or she starts school. Seventy per cent of all children have infections caused by tooth decay. Many children suffer from toothache, which has a significant impact on their concentration. Unfortunately, dental care is only available in larger cities and is unaffordable for most people. Regular cleaning with fluoride toothpaste can significantly improve oral health.

A scientific study has shown that children in the ‘Fit for School’ programme in the Lao PDR develop 38 per cent less tooth decay than children in control schools.

Chino’s little sister is very young and so far only has four shiny white teeth. But her big brother wants to make sure that they – and her new teeth when they arrive – remain healthy. And that’s not all: ‘Chino always reminds me to brush my teeth,’ says Lee, his mother, who takes part in the hand-washing ritual with her children. She has got used to the idea that everything takes a little longer with all the singing and dancing. If only she could persuade her husband to join in with it in the evening, she says, laughing. —



**BRIGITTE SPITZ** is a freelance journalist.

For many years, she was a senior foreign policy editor at the Frankfurter Rundschau, specialising in Asia. Brigitte took her son with her to the Lao PDR. Nelson (14) joined in with the hand-washing routine and had a great time with the local children.

# A FRESH START

In Lebanon's poorest neighbourhoods, locals and refugees often lack the skills they need to get a job. To help more people into work, GIZ has teamed up with its partners to offer a series of intensive training courses. Feedback from our four interviewees shows that this was a success.

TEXT AND PHOTOS OLIVIA CUTHBERT







## ‘I will use this training when I go back to Syria and look for work.’

*HALA ACHRAFI (51) arrived in Lebanon as a refugee from Syria. She has since completed a training course as an interior painter at the vocational school in the Lebanese city of Choueifat.*

I studied art in Syria. For me, any kind of painting is a chance to be creative. It's not just about brushing paint onto a wall. You need an artistic touch as well as the technical know-how to mix and measure out the materials. I really enjoyed the course. I wish it lasted longer than a month. Then I could learn even more. I also make jewelry and gold leaf decorations on furniture. It's very intricate work, but I'm used to it. I'm keen to learn about anything to do with art – especially more unusual types of work that not everyone can do. It gives me confidence and makes me proud. The training gave me valuable insights and taught me some new techniques – how to make sure you get the perfect paint consistency, for example. That was very interesting. I was determined to pass the course, and I did. I will use this training when I go back to Syria and look for work. I hope it will help me in the future. In the meantime, I keep myself busy by painting my family's house and doing jobs for friends. Some women I know have also signed up for the training. One woman is taking the course with her husband. I encourage them all to sign up so that one day we might be able to work together as a team.' —



**‘The training has brought me a step closer to fulfilling my dream.’**

*FAYZAL GHAZI (23) is Lebanese and has successfully completed a vocational training course in the city of Tripoli.*

‘At first I thought I would get money when I signed up for the course. Instead, I got knowledge. That’s much better. I used to do casual jobs on building sites, but it was irregular work. Then friends told me about the course and I thought, okay, why not give it a go? For me, it really paid off for three reasons. First, you get a set of tools when you complete the course. You also get to know the trade better and can build up practical experience during the placement. The boss at my internship company showed me how to hold a brush correctly and work with different colours. I was doing it wrong before. Now, because I know how to do it right, I have more confidence in my work. During the training and then the internship, it was a great experience to be developing new skills and doing something productive with my time. I felt like I was working towards something. Since passing the course, I always take my certificate with me to interviews. When I applied for jobs in the past, companies would often close the door in my face. But now I’m hoping to find better work. I’m 23 and I’d like to start a family and rent a house, but I need to earn more. The training makes it easier to do that and has brought me a step closer to fulfilling my dream. Life is tough for many young people in my neighbourhood. Finding work gives me a good feeling, and it means I can improve my situation. I hope I can start a new life now.’ —



**‘I see it as my duty to pass on skills to the next generation.’**

*MOHAMAD EL DANNAWI (33) owns the building firm Wazir Contracting in the Lebanese city of Tripoli.*

‘So far, three of the programme’s trainees have completed the practical part of their course here at my company. I continue to mentor them even after they leave. Many just didn’t have the chance to get a good education at school, so teaching them practical skills can make a huge difference. It’s only during the internship that they really understand certain things: how to use tools correctly or how to work with different materials. The practical part of the training is very important. There are so many things you can’t really learn in the classroom. You need the practical experience to learn important tricks of the trade, such as how much water you need to add to a particular product or how to separate different layers. I have almost 20 years of experience, but I still do training when a new product comes onto the market. Painting can be divided into four steps. The last, the topcoat, is the most important, because that is what the customer sees. You need a lot of patience for this work – good painting is all about quality, and I need real professionals who understand how to provide that quality. Of course, I could always find a carpenter who does a bit of painting on the side. But I need properly qualified workers who know the basics and who care about what the finished product looks like. I see it as my duty to pass on these skills to the next generation so that they can find work as professionals. If we all saw ourselves as mentors, we could work together to help the whole community move forward.’ —





## ‘Our accreditation system strengthens confidence in the standards.’

*TAYMA AWAISS (28) examines the trainees at the end of their vocational course in Lebanon.*

‘Everyone who joins the training programme is keen to find work, so they want to pass the exam. I’ve been struck by how committed they all are. They take it very seriously. The first thing I do is check that they have complied with the safety regulations. Are they wearing overalls and sturdy shoes? Then I check everything else on my list. Has the workplace been well prepared, for example? Have the walls been smoothed and any nails removed? It’s also important to mix the paint properly and leave the work area clean and tidy when you’ve finished. In Lebanon, it’s the safety rules that are most often ignored. It’s a cultural thing. There is a widespread view that protective clothing is unnecessary. Having said that, the situation is improving. A government decree in 2012 helped to standardise safety regulations on construction sites and raised awareness generally of the need for more stringent labour standards. If building firms can find young people who are willing and able to work to a good standard, they will hire them. That’s why I think there is a good chance that our graduates will find work on construction sites. And we hope to achieve a higher quality standard overall. Employers put their trust in our independent accreditation service. The APAVE certificate is designed to help people find work and earn more. Today, more companies than before are willing to pay a bit extra for excellent work. If they receive an application from someone with our certificate, they can be confident that he or she will meet the required standard.’ —

## RETHINKING VOCATIONAL EDUCATION

‘Qudra’ is Arabic for strength, resilience or ability. The Qudra programme, which GIZ is implementing on behalf of BMZ and the EU, aims to improve the living conditions of refugees and host communities. Some 1.5 million Syrians have sought refuge in Lebanon. The country is struggling with high **youth unemployment**. To improve the job prospects of refugees and local people, GIZ has teamed up with the Ministry of Education to offer training courses in the construction sector. To this end, in collaboration with the **EU project ProVTE**, it has produced a series of basic vocational training plans that are now used as models throughout the country. Previously, despite the obvious need, **shorter vocational training modules** were unusual in the Lebanese system. The idea is to help people gain qualifications in cases where they cannot afford the time or money to enrol on a long course. The training was also opened up to refugees. The **new curriculum** is modular, and courses are available all over the country. This gives young people a better chance of finding work. It also boosts the **reputation of vocational training** in general. —

contact: [info@qudra-programme.org](mailto:info@qudra-programme.org)

## LEBANON

Capital: Beirut / Population: 5.8 million /  
GDP per capita: USD 7,690 (1) / Economic growth:  
0.2 per cent (2) / Human Development Index  
ranking: 80 (out of 189)

Source: (1, 2) World Bank 2018



The project contributes to the following United Nations Sustainable Development Goals (SDGs):



# EDITOR'S

## *Digital Picks*

## Time for change

**DOCUMENTARY** 'A Plastic Ocean' highlights – both impressively and depressingly – the state of our seas and oceans. For four years, director Craig Leeson filmed across the globe in the hope of creating a new awareness of the fact that our indiscriminate use of plastic has fatal consequences. The film was re-released in 2016 and is widely viewed as a major catalyst to a global rethink on plastic. —



## Get on your bike!

**WEBSITE** The latest Bicycle Architecture Biennale (BAB) examines how far bike-friendly urban design methods can influence future patterns of mobility. The organisers' ultimate objective is to establish the bicycle as the transport method of choice for 50 per cent of all urban journeys by 2030. — [bycs.org/bab](http://bycs.org/bab)

## We are Family

**REPORT** What defines families today? This question is explored in the UN Women report entitled 'Progress of the world's women 2019-2020 Families in a changing world'. The report presents moving stories of women from different nations and deals with issues such as family law, employment, unpaid care work, violence against women, and families and migration. — [progress.unwomen.org](http://progress.unwomen.org)

## Think you're clever?

**QUIZ** What kind of activist are you? Devised for teenagers, the SDG quiz is a fun way of learning about the global Sustainable Development Goals (SDGs). In addition to lots of interesting facts about the 2030 Agenda, it can be used for self-analysis and as a source of ideas on how to apply the SDGs and start taking action at a personal level. Inspiration for all ages. — [www.klimaquiz.de/sdg\\_startseite](http://www.klimaquiz.de/sdg_startseite) (in German)

## Daily bread

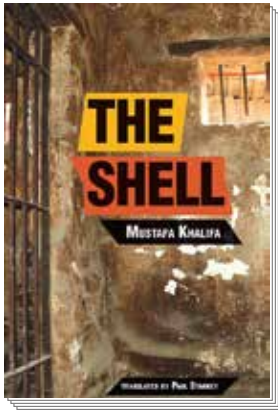
**PHOTOS** Gregg Segal manages to address a serious topic – childhood obesity – in a humorous and colourful way. For his 'Daily Bread' project, he invited children from all over the world to write down what they ate for a week. He then photographed them with the food arranged around them. Gregg wants to show how globalisation is changing our relationship with food, because the eating habits we acquire as children can last a lifetime. — [greggsegal.com/P-Projects/Daily-Bread](http://greggsegal.com/P-Projects/Daily-Bread)





# GOOD READS

*from around the world*



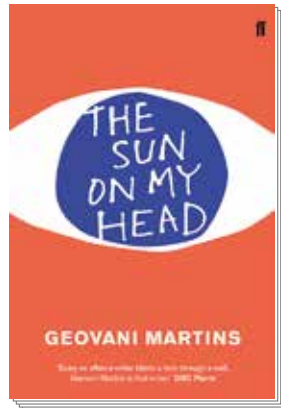
## THE SHELL

Like his narrator, Mustafa Khalifa endured 13 years of unspeakable torment in a desert prison. His novel, harrowing but captivating and written with the eyes of a documentary filmmaker, bears witness to his experiences. It is simultaneously brilliant and unbearable, a record and an indictment. Fundamental and important – world literature. —

*Ulrich Noller, culture journalist*

**Mustafa Khalifa, Syria**  
**Novel. Translated from Arabic**  
**by Paul Starkey.**  
**Interlink Books, 192 pages**

LITPROM RECOMMENDS  
 Litprom – the Society for the Promotion of African, Asian and Latin American Literature – provided these reviews for akzente. The titles were selected from Litprom's list of the best new releases.  
[www.litprom.de/en](http://www.litprom.de/en)

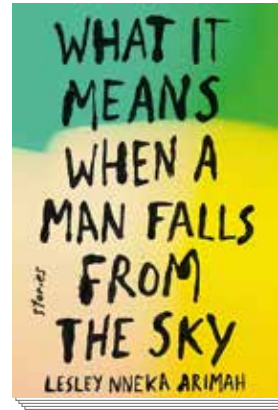


## THE SUN ON MY HEAD

A child watches a butterfly land in cooking oil. The anti-narcotics unit occupies the Rocinha district of Rio de Janeiro. Martins tells of everyday life among Brazil's poor in a collection of short stories with an autobiographical flavour. Pleasantly laconic, accessible, lucid – the new voice of rebellious youth. —

*Andreas Fanizadeh, literary editor*

**Geovani Martins, Brazil**  
**Short stories. Translated from Portuguese by Julia Sanches.**  
**Faber & Faber, 128 pages**



## WHAT IT MEANS WHEN A MAN FALLS FROM THE SKY

This young author has mastered every literary register. She explores perennial issues such as love and homeland with a refreshingly new approach. The scene could be Nigeria, the US or anywhere in between. Radiant and sharp, angry and tender. Global literature at its best. —

*Anita Djafari, Managing Director, Litprom*

**Lesley Nneka Arimah, Nigeria/USA**  
**Stories.**  
**Riverhead Books, 240 pages**



## THE GOOD SON

What turns someone into a psychopath? How does evil emerge? How much is the family to blame? To what extent is it simply part of a person's nature? 'The Good Son' is an exciting and radical psychological thriller that explores these fundamental questions head-on. You-Jeong Jeong is South Korea's literary superstar. Read the novel, and you'll see why. —

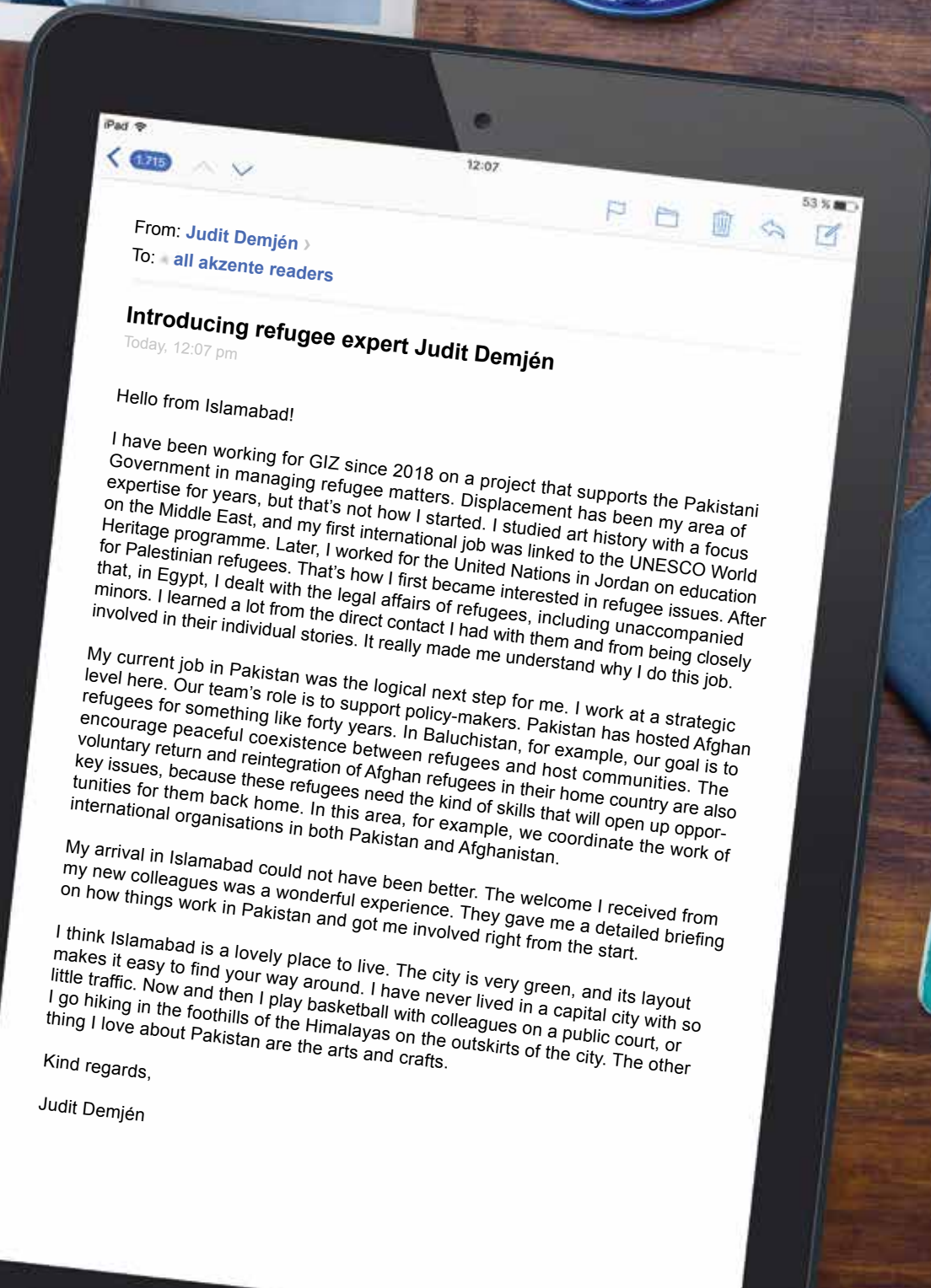
*Insa Wilke, literary critic*

**You-Jeong Jeong, South Korea**  
**Novel. Translated from Korean by Chi-Young Kim.**  
**Penguin Books, 320 pages**

Introducing



GIZ is always looking for experts for its projects. Why not visit our 'Jobs and careers' page: [www.giz.de/careers](http://www.giz.de/careers)



From: Judit Demjén >

To: all akzente readers

### Introducing refugee expert Judit Demjén

Today, 12:07 pm

Hello from Islamabad!

I have been working for GIZ since 2018 on a project that supports the Pakistani Government in managing refugee matters. Displacement has been my area of expertise for years, but that's not how I started. I studied art history with a focus on the Middle East, and my first international job was linked to the UNESCO World Heritage programme. Later, I worked for the United Nations in Jordan on education for Palestinian refugees. That's how I first became interested in refugee issues. After that, in Egypt, I dealt with the legal affairs of refugees, including unaccompanied minors. I learned a lot from the direct contact I had with them and from being closely involved in their individual stories. It really made me understand why I do this job.

My current job in Pakistan was the logical next step for me. I work at a strategic level here. Our team's role is to support policy-makers. Pakistan has hosted Afghan refugees for something like forty years. In Baluchistan, for example, our goal is to encourage peaceful coexistence between refugees and host communities. The voluntary return and reintegration of Afghan refugees in their home country are also key issues, because these refugees need the kind of skills that will open up opportunities for them back home. In this area, for example, we coordinate the work of international organisations in both Pakistan and Afghanistan.

My arrival in Islamabad could not have been better. The welcome I received from my new colleagues was a wonderful experience. They gave me a detailed briefing on how things work in Pakistan and got me involved right from the start.

I think Islamabad is a lovely place to live. The city is very green, and its layout makes it easy to find your way around. I have never lived in a capital city with so little traffic. Now and then I play basketball with colleagues on a public court, or I go hiking in the foothills of the Himalayas on the outskirts of the city. The other thing I love about Pakistan are the arts and crafts.

Kind regards,

Judit Demjén





# SUSTAINABILITY

## A look back at a project and its results



**Project:** Adapting to Climate Change in the Lake Chad Basin /  
**Commissioned by:** German Federal Ministry for Economic Cooperation  
and Development (BMZ) / **Term:** 2013–2018

### THEN

Around **38 million people** live in the Lake Chad Basin, mostly in poor rural households. The basin region is economically and ecologically important for all the countries into which it extends: Chad, Nigeria, Niger, Cameroon, the Central African Republic and Libya. Together with the rivers that feed into it, Lake Chad is a **vital store of water** in the central Sahel. Between 1960 and 2000, its surface area decreased by about 90 per cent. According to the United Nations Environment Programme, **50 per cent of the decline** is due to the effects of climate change. If there is not enough rain, farmers can lose their crops. By contrast, intense rainfall causes flooding and erodes the fields. This creates **food insecurity** and heightens social tensions. It also increases poverty and forces people to flee. On behalf of BMZ, GIZ supports the work of the Lake Chad Basin Commission (LCBC), which advises its member countries on **how to deal with the effects of climate change**.

### NOW

The project has helped **450 actors** from all over the region to establish links with the LCBC, including representatives from agriculture, civil society organisations and government advisory bodies. A **50,000 km<sup>2</sup> pilot zone** was created to test and evaluate traditional and modern adaptation methods, such as drought-resistant cereal and bean crops with shorter growing times. Average yields were **more than doubled** by using improved varieties and cultivation methods and adapting to the altered rainy season. Crop diversity was increased by growing honeydew melons and watermelons. In 2018, the households supported by the project generated **EUR 420 of additional income** on average from the sale of honeydew melons and **EUR 960** from the sale of watermelons. Successful pilot zone practices have been made available to all the LCBC'S member states.

<https://mia.giz.de/qmlink/ID=246058000>

## AKZENTE

### Publisher:

Deutsche Gesellschaft für  
Internationale Zusammenarbeit (GIZ) GmbH

### Registered offices:

Bonn und Eschborn, Germany

Friedrich-Ebert-Allee 36 + 40, 53113 Bonn, Germany

T +49 228 44 60-0

F +49 228 44 60-17 66

Dag-Hammarskjöld-Weg 1-5, 65760 Eschborn, Germany

T +49 61 96 79-0

F +49 61 96 79-11 15

E: [akzente@giz.de](mailto:akzente@giz.de)

I: [akzente.giz.de/en](http://akzente.giz.de/en)

Sabine Tonscheidt,

Director of Corporate Communications (GIZ)

**Responsible:** Ute Schaeffer, Head of Media and  
Public Relations and Press Spokesperson (GIZ)

### Content concept and editing:

GIZ: Nicole Annette Müller (editor)

FAZIT Communication GmbH: Sabrina Pfost (project  
management), Friederike Bauer, Judith Reker, Brigitte  
Spitz, Oliver Hick-Schulz (artistic direction, photo  
editing), Martin Gorka (infographics), Corinna Potthoff  
(photo editing)

**Proofreading:** textschriftmacher

**Graphic design/lithography:** FAZIT Communication GmbH

### URL links:

Where links are included to external sites, responsibility  
for the content of these sites lies solely with the provider.  
GIZ explicitly disassociates itself from all such content.

### Maps:

GIZ/Ira Olaleye

The maps are for information purposes only and do not  
constitute recognition under international law of bounda-  
ries and territories. GIZ provides no assurance that these  
maps are up-to-date, correct or complete and accepts  
no responsibility for loss or damage arising directly or  
indirectly from their use.

GIZ is responsible for the content of this publication.  
Articles by individual authors do not necessarily reflect  
the opinions of the publisher.

**Cover photo and p. 16:** Dario Pignatelli/Polaris/laif

**All images:** GIZ unless otherwise stated

**Copy deadline:** August 2019

**Published:** quarterly

**Current issue:** September 2019

**Printed by:** Druckerei Lokay e.K., Reinheim, Germany

**Printed on:** Arctic Volume, certified to FSC standards

ISSN: 0945-4497

You can subscribe to akzente free of charge as a printed  
magazine or as a pdf by sending your email or postal  
address to:

[akzente-vertrieb@giz.de](mailto:akzente-vertrieb@giz.de).

You can unsubscribe using the same address.

akzente has received several awards  
for its high-quality journalism and  
design. In 2018, it won the Best of  
Content Marketing Award in silver  
in the crossmedia and website  
categories.



**Waste** [weist] is the collective term for objects, materials, leftovers and remnants that somebody wants to get rid of. The term ‘rubbish’ is often used to mean the same thing. The German Circular Economy Act (Kreislaufwirtschaftsgesetz) distinguishes between waste to be recycled and waste to be disposed of (i.e. that cannot be recycled).

Source: [umweltdatenbank.de](http://umweltdatenbank.de)

As a service provider with worldwide operations in the fields of international cooperation for sustainable development and international education, GIZ works with its partners to develop effective solutions that offer people better prospects and sustainably improve their living conditions. GIZ is a public-benefit federal enterprise and supports the German Government and a host of public and private sector clients in a wide variety of areas, including economic development and employment promotion, energy and the environment, and peace and security.

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH