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A woman wearing a vibrant, multi-colored patterned headscarf and a green cardigan over a dark blue top with a floral pattern is smiling as she uses a tablet computer. She is in a workshop or classroom setting, with other people in the background, some wearing similar headscarves. A black device with a white signal icon is visible in the bottom right corner.

Digitalisation

Potential for sustainable development

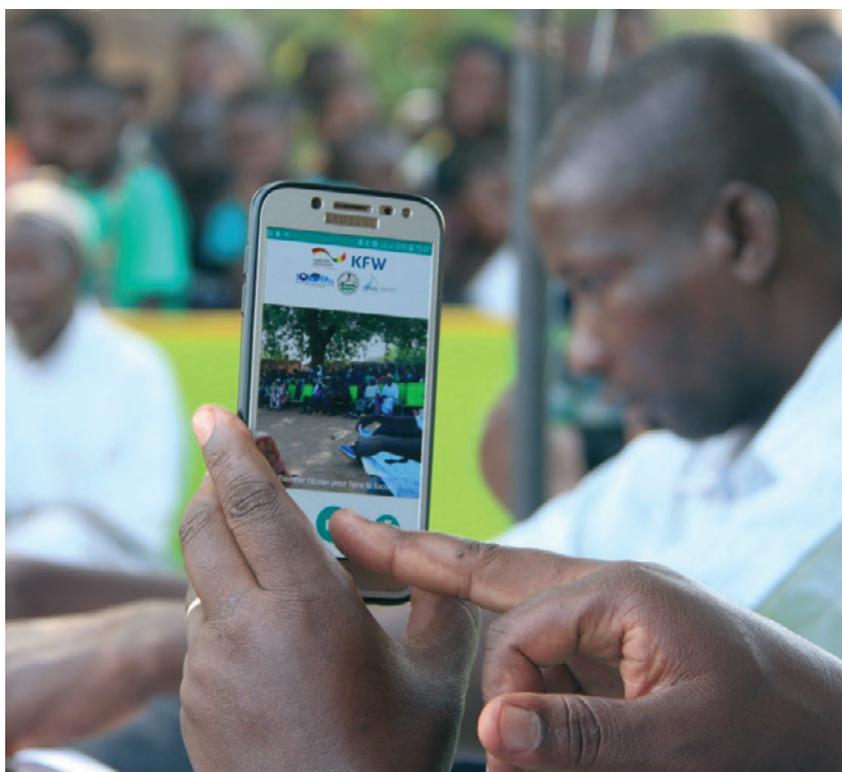
Leaps forward are possible

Developing countries stand to benefit from digitalisation in particular. To this end, they need to close the digital divide: this means giving everyone access to the internet and developing expertise in digital solutions. If they can succeed, new leaps forward in development are possible.

On-screen medical advice via screens, weather services for agriculture, marketing products online, learning to read and write on a computer – digitalisation offers almost inexhaustible possibilities, especially for developing countries. Not only because knowledge can be tapped quickly on the internet, but also because it reduces costs and time, eliminates physical distances and allows technology stages to be skipped.

These are key advantages for countries that have challenging topographic conditions and often do not yet have functioning administrations, comprehensive healthcare systems, good roads and railways, etc. Especially since a lot can be done with a simple mobile phone. Smartphones, tablets or computers can then access a vast world of data and a whole universe of information. Data can be used much more efficiently to generate benefits with big data and artificial intelligence. Against this background, many regard digitalisation as an important accelerator for development.

Conversely, whoever fails to jump on the digitalisation bandwagon has little chance of achieving the Sustainable Development Goals (SDGs). However, the process is not a foregone conclusion, despite how technologi-



Mobile phones are now widely available, but far fewer people have access to the internet.

cally savvy people are, as is the case in Africa, for example. In order to reap the benefits of the “digital dividend”, not only is receptiveness to new ideas needed, but also the right technical, regulatory and social conditions. This means, among other things, making the internet universally accessible as quickly as possible.

This is because by no means is everyone online yet, only about half of the world’s population, around three billion people: in the least developed countries, only one in five people is online; by way of comparison, in industrialised countries, the figure is four in five. Women also have much less access to the internet than men;

people living in rural areas less than city dwellers, people who are uneducated less than those who are educated – this is true in general, but especially in developing countries. And the global digital market is dominated by companies from the USA and China. Developing countries do not in effect play a role. Moreover, this unequal distribution not only relates to the internet, but also to digital applications in general. To date, they have been used much less in developing countries, for example in public authorities, universities or hospitals, than in the richer north, because money and expertise are often lacking for complex IT projects. The opportunities presented by digitalisation are therefore compounded by the serious risk of a “digital divide”, which can create new rifts or intensify existing ones.

Closing this divide requires not only infrastructure, but also the necessary knowledge and an environment conducive to innovation, which also addresses issues related to (market) access, competitive conditions, costs, data protection and data security. Only then can developing countries really capitalise on the tremendous opportunities offered by digitalisation. KfW supports its partners on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) in various ways to address these challenges and to harness the potential for sustainable development. The spectrum of KfW involvement is as multi-faceted as the digital technologies themselves. It ranges from fibre optic cables in Benin to digital billing in the Tanzanian health sector, a digital land register in Azerbaijan and satellite-based

monitoring of reforestation in Madagascar. Also part of the repertoire are the setting up of intelligent networks and meters for energy and water supply, for example in Sri Lanka and Kyrgyzstan. Recently, KfW even developed its own innovative blockchain software for the transparent and secure processing of public investment projects. However, in the context of digital change KfW sees itself not only as a promotional institution but also as a learning organisation itself, which is undergoing a profound transformation. The digital development landscape of the future is still in its infancy, but there is no doubt that it will be different. And it is also clear that this change is a marathon, not a sprint, a process, not an event – neither for KfW, nor for the developing countries it cooperates with. ■
Thorsten Scherf / Friederike Bauer

“Digitalisation is not a gadget”

Development cooperation is on the verge of far-reaching change, which it has to overcome quickly. In an interview, Dr Joachim Nagel, member of KfW’s Executive Board, explains why digitalisation will change cooperation with partner countries just as much as the working methods of the institutions involved.

Everyone is talking about digitalisation. What significance does it have for development cooperation?

It is very significant. I expect two specific things: first, that digitalisation will help our partner countries in their development. Without the help of innovative technologies, the SDGs cannot be achieved; this is something all experts agree on. And

second, I hope that this will make work much easier for us here at KfW Development Bank.

Wouldn’t developing countries need healthcare and water more urgently than technical gadgets?

Digitalisation is not an end in itself. It’s not just about gadgets. But many things can be done easier, faster and more effectively with digital applica-

tions. I see digitalisation as an accelerator to drive things forward. This can be perfectly combined with traditional project support in our sectors. Take telemedicine for remote areas for example. Rapid relief for many diseases can be obtained this way.

Digitalisation is associated with huge opportunities on the one



Dr Joachim Nagel, member of KfW's Executive Board

hand. But is there not also a risk that developing countries will fall even further behind?

I see more opportunities. We should try to reap the benefits. Especially since, in my experience, people in developing countries are technologically savvy. They want to be more digital, they want to put the new possibilities to use to meet their needs and interests. We should support them in these efforts. I am thinking, for example, about mobile banking, the digitalisation of administrations or e-learning. This will make it possible to achieve leaps forward in development. This is why I am not one of the people who are fundamentally sceptical about the internet.

Does this also apply to data security and data protection?

Nowhere is data security irrelevant. Digital technologies should be used responsibly throughout the world.

sation. What does this mean for a development bank?

Disruptive is the wrong word for me in the context of the development bank. I actually see fundamental changes coming, but without a destructive effect in the context of KfW Development Bank. We will have a different way of communicating with our partners, a different way of managing projects, a different way of monitoring financial flows, but I do not see digitalisation as a threat, it is an opportunity.

Will we still need national development banks like KfW in the digital world of the future?

We will also play a role in the future. If only because commercial banks do not want to bear some of the risks that we deal with. We operate in more than three-quarters of the countries considered fragile worldwide. The financial sector often avoids these markets. But that is exactly where resources are needed to improve the situation. Or take climate change mitigation; here, too, public banks are needed to drive the transformation. In short, the global challenges are so numerous and so immense that a development bank like ours is not surplus to requirements. ■

This interview was conducted by Friederike Bauer

We need to work on this. But the fact that we have not yet solved this problem fully and to our satisfaction should not prevent us from fully leveraging the enormous potential of digitalisation.

Some people talk about disruptive changes related to digitali-



Accelerator for development

The global Sustainability Development Goals can only be achieved with new digital technologies. The German Federal Government therefore wants to support the people, private enterprise, civil society, science and political decision-makers in its partner countries in taking advantage of the opportunities offered by digital transformation and managing the risks effectively. "Digitalisation offers great opportunities – also and especially for developing countries and emerging economies. Nowhere is digitalisation progressing faster than in Africa. More people in the world today are online than offline. We must not overlook this trend. We must exploit the full potential of new technologies to create new opportunities in education, agriculture, medicine and the tech sector", says Development Minister Dr Gerd Müller, explaining the German commitment.

https://www.bmz.de/en/issues/wirtschaft/nachhaltige_wirtschaftsentwicklung/ikt/index.html

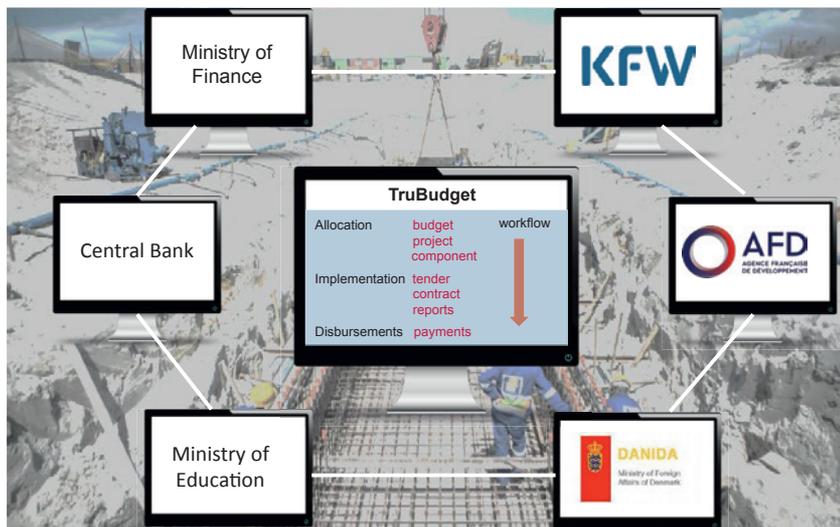
Close, reliable cooperation

KfW has developed an innovative working platform for a close partnership with developing countries and emerging economies: TruBudget is based on blockchain technology.

Our goal is to achieve transparency for everyone involved in a project and ensure reliable and efficient use of the approved funding,” explains Piet Kleffmann, head of the TruBudget task force. After all, the distribution and monitoring of donor funds is a sensitive issue. While donors are concerned that their money is actually used for the agreed purpose, recipients often feel ignored and sidelined. TruBudget (Trusted Budget Expenditure) is the ideal solution. It is a workflow tool for business partners who cannot access a shared IT system. The platform allows all the work steps and disbursements of a development project to be processed jointly by the government agencies and donor organisations involved. Every user action is stored on what is known as a blockchain, a continuously growing list of data records. Data on a blockchain of this kind cannot be

subsequently modified and is therefore forgery- and tamper-proof. These features of TruBudget create enormous advantages: every partner has access to up-to-date and reliable information on the status of projects at all times. Time-consuming communication in countless emails, where reports are requested and then different versions are sent, becomes a thing of the past. This allows costs to be significantly reduced and Official Development Assistance (ODA) resources to be used much more effectively – in line with the Paris Declaration on Aid Effectiveness. The transparency and reliability of the tool also make it possible to use funds directly via the partner budget in the future, thereby positively affecting the autonomy of the partner countries. TruBudget is currently being tested in several countries for different use cases. The Ministry of Finance in

Burkina Faso has developed its own version of TruBudget with the support of the German Federal Ministry for Economic Cooperation and Development (BMZ), with which all future donor projects in Burkina Faso will be implemented. The people responsible in Burkina Faso are confident that this will make it easier to get information on the use of donor funds and improve their own budget planning considerably. TruBudget platforms were also installed in Georgia and Ethiopia and adapted to the specific requirements of the partners. In Georgia the tool is designed in particular to improve the coordination processes between the national and local authorities involved in projects and to make the implementation and disbursement of KfW funds transparent and traceable. The institutions involved are currently being prepared for use of the platform. ■ *Sabine Balk*



Thanks to TruBudget, every partner has access to up-to-date and reliable information on the status of projects at all times.



Your mobile phone as a wallet

Most Ethiopians do not have bank accounts, but have been able to make cashless payments and transfer money by mobile phone for several years – made possible by the M-Birr mobile money platform.

My mobile phone isn't just a mobile phone, it's also my wallet," says Biniam Tesfu, who uses the cashless payment system M-Birr. Like many Ethiopians, he does not have a smartphone, but an older model. No problem for M-Birr, because the transactions are made with a numerical code that even older mobile phones can handle. Even Ethiopians who do not have a mobile phone can receive money with M-Birr. The user gets a scratch card with a PIN, goes to one of the M-Birr agents and receives his payment.

There are now over 11,000 agents, often operators of a kiosk, petrol station, café or restaurant. Every M-Birr user first sets up an account. To do this, he has to be registered with one of the agents or a bank and show his identity card. Behind the agents is a network of microfinance institutions that offer a nationwide network for financial transactions. Within ten years, the platform for mobile payment transactions grew to more than 1.5 million registered customers. Two financial experts, Frenchman Thierry Artaud and Irishman Jim Noctor, founded the company in 2009. They had been specifically looking for an investment opportunity and recognised a market niche in Ethiopia. More than three quarters of the 100 million



Easy payment at the weekly market – all the merchant needs to do is register.

inhabitants have no access to banking services. Then again, 40 million Ethiopians own a mobile phone.

"Our users receive money securely, quickly and without additional costs," says founder Thierry Artaud. M-Birr was the first supplier of its kind in the African country. To accompany the rapid growth, DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH – invested EUR 4 million in equity capital in 2018. DEG was impressed by the interesting and forward-looking business model, which promised to have an enormous positive developmental impact. The founders of M-Birr also see DEG's involvement

as a vote of confidence that will help them to find further investors. They want to improve and expand the service.

M-Birr also offers the only possibility in Ethiopia to transfer money easily between two different banks within the country. And this is key, because there is no functioning clearing system between banks in Ethiopia.

M-Birr is used as an uncomplicated payment method in daily life. Biniam Tesfu uses it to buy his food in the supermarket. Young people who work in the city use it to provide financial support for their parents in rural areas. ■

Dr Charlotte Schmitz

Preventing deforestation with digital geodata management

Around the world, forests are threatened by deforestation. Digital geodata management helps authorities in Ecuador and Laos to protect the forest more effectively from illegal logging.

The burning Amazon in Brazil made headlines around the world last year. In neighbouring Ecuador, too, the tropical rainforest is threatened by the expansion of livestock farming, agriculture and mining. Yet forests play a key role in combating climate change and species extinction as carbon sinks and habitats for many threatened species of flora and fauna. Until now, the Ecuadorian Ministry of the Environment has had insufficient resources to fight illegal deforestation. KfW therefore provided EUR 5.5 million between 2017 and 2019 on behalf of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) to support the establishment of a forest monitoring system that will significantly improve the availability of data on deforestation.

It is based on satellite images, which are refined using further complex techniques. High-quality new hardware makes it possible to process data in Ecuador. Ministry staff received training and introduced new processes for data analysis based on a division of labour.

The Ministry's improved geodata management system in turn helps park rangers in the northern Amazon region. "The work as a park ranger is strenuous and sometimes very dangerous. The project enables the rangers to pinpoint deforestation to within one hectare," explains Alexandra Mylius, the KfW project manager responsible.

In the past, forest inspections were only able to detect illegal deforestation with the help of reports from the population or imprecise satellite

images. Today they get biweekly updated data from the most remote parts of the rainforest on their tablets – a huge step forward. This enables the rangers to specifically visit the deforested areas, take pictures and record GPS data. This is a prerequisite for pressing charges against illegal deforestation. "With the new forest monitoring system, the park rangers and staff at the Ministry of the Environment in Ecuador can work much more efficiently and effectively," says Mylius.

Digital remote sensing using satellite images and GPS data is also intended to prevent ongoing deforestation in Laos. More and more forest in the Southeast Asian country has to yield to large infrastructure projects and illegal logging.

Around 150 microsattellites collect images that can even track the felling of individual trees. In addition, a labelling system along the entire production chain documents where individual pieces of wood are from. The aim is to prevent timber from illegal deforestation from being traded internationally. KfW is implementing the project under the EU initiative "Forest Law Enforcement, Governance and Trade" (FLEGT) with almost EUR 20 million on behalf of the BMZ. The scope of support includes financing for training in the forestry sector and related equipment. ■

As in many other areas of the world, the rainforest in Ecuador is being destroyed on a large scale.



Linda Engel



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