



We have to prepare for the unexpected



In August, Germany's development ministry set up a division concentrating on One Health topics. Parliamentary State Secretary Maria Flachsbarth on knowledge gaps at the human-animal-environment interface, the link between One Health and food security, and lessons learnt from previous pandemics.

Ms Flachsbarth, your Ministry recently set up a One Health Unit. Why do we need such a unit?

The German Government has long been campaigning for stronger interdisciplinary cooperation between human and veterinary medicine and the environmental sector. The need for interdisciplinary cooperation has once again become apparent with the global COVID-19 crisis. We have therefore decided to further step up our engagement for One Health and set up a new Directorate for "Global Health; pandemic prevention; One Health" at the Federal Ministry for Economic Cooperation and Development, the BMZ. Since the 1st August 2020, a new Division has been dealing specifically with One Health topics. In this manner, we are boosting our capacity to support interdisciplinary ventures in our partner countries.

Does "greater engagement" also mean "more finance"?

The increasing significance which we attribute to the One Health approach is also being underscored by more finance for health, combating pandemics and One Health. The Federal Parliament is to decide on the exact amounts in a few days' time. And then there are contributions to multilateral initiatives in the health

sector. For example, we are supporting the Global Fund to Fight AIDS, Tuberculosis and Malaria alone with one billion euros for the period 2020 to 2022, making us the fourth largest donor to the Global Fund. The One Health sector is still quite young and is in a process of expansion, so that statements on development aren't yet possible. But I would already like to point to two new projects launched at Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). As of January 2021, a sector project on One Health will be advising us. In addition, from 2021 on, we will be financing a global project on the prevention of epidemics and pandemics with a One Health approach for three years in order to provide special support for partner countries and institutions implementing the One Health approach.

Cooperation across sector boundaries is at the core of One Health. How does this work in German politics in concrete terms?

The Federal Government recently adopted the "Global Health" strategy, which takes the One Health approach into account. I would explicitly like to refer to two concrete, cross-department Federal Government measures relating to One Health. One of them is the "National Research Platform for Zoonoses" funded by the Federal Ministry of Education and Research (BMBF), the Federal Ministry of Food and Agriculture (BMG), the Federal Ministry of Health (BMG) and the Federal Ministry of Defence (BMVg). It is an information and service network for all scientists working in the field of zoonosis research in Germany. With its more than 1,000 members, it is an established pillar of the zoonosis research community in Germany. There is a further joint approach centring on the topic of antimicrobial resistance. The Federal Government is addressing this important topic with the German Antibiotics Resistance Strategy – DART – and is continuing to develop that strategy. Here too, we intend to act in concert as the Federal Government. In the past, it was more the individual line ministries (including the BMEL, BMBF and BMG) which were active, but we as the BMZ are playing an ever stronger political role as a powerful actor in our partner countries. For we must surely all be aware that global problems can only be solved globally.

And with our work with and in our partner countries, but also with our multilateral partners, we are contributing essential experience.

In addition, again and again, individual departments have joined forces to implement joint projects. From 2013 to 2018, for example, the BMBF and the BMZ supported the development of six German-African research networks for five years in the context of the Globe – Global Food Security funding initiative.

Do we know enough about the interaction between human, animal and environmental health?

We already know a great deal about interaction between human and animal health. Let's take the example of zoonoses, diseases that can jump from animals to humans, such as brucellosis, bovine tuberculosis or rabies. Up to just a few decades ago, these illnesses had accompanied our lives and posed a daily threat for many. Diseases caused by the consumption of animal food, such as campylobacteriosis or *Salmonella* and *E. coli* infections, are a danger to human health. But our knowledge and the consistent application of measures, especially in the field of food safety, have resulted in some illnesses, such as brucellosis or tuberculosis, nowadays hardly being a problem in Europe. Nevertheless, they are still very much a problem in our partner countries.

We lack knowledge at the interface between human and animal health and environmental health. We know that new threats come first and foremost from the wildlife area, as is the case now with COVID-19. More than 70 of the new pathogens, including a large number of coronaviruses, among them SARS-CoV-1&2 and MERS-CoV, come from wild animals. Unfortunately, we don't know which pathogens will next become a threat and when this is going to happen. So we need good prevention and early-warning systems, which however is an extremely complicated issue. For many wild animals don't get ill from the microorganisms and viruses which can trigger epidemics or pandemics in humans. Furthermore, we lack knowledge about the interaction between the environment and the areas of human and animal health. Just consider the consequences of climate change. We know that the climate



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has a considerable influence on health and on carriers of diseases, such as blood-sucking insects. It is getting warmer, so that vectors like mosquitos can spread into new areas or other altitudes and spread previously unknown illnesses there, such as the West Nile virus and Chikungunya virus infections or malaria. But there are certainly many interactions which we are as yet unaware of.

What about food security in this context?

Of course, a sufficient supply of safe, healthy food is the basis of health and development. But we also know that food must not only be healthy, it also has to be produced in a healthy manner. What I mean here is that we can only produce our food sustainably if we consider interaction between agriculture and the environment. Our aim is to achieve closer collaboration between the actors in the three sectors of human, animal and environmental health as well as agriculture and the areas of water and wastewater. No sector can now manage this on its own.

For us, this also means that we are going to take a much more interdisciplinary approach and pull together development cooperation projects from various different sectors. For example, in sustainable agriculture, we are putting an even greater emphasis on the protection of the environment and natural resources, e.g. through agro-ecology, and are linking up agriculture with health aspects. In this manner, the interdisciplinary One Health approach is contributing to food security – and vice versa.

Where do you see the greatest obstacles to implementing this approach in the partner countries?

Many of our partner countries have already experienced outbreaks of diseases calling for interdisciplinary action: Ebola in West Africa, Rift Valley Fever in East Africa, SARS, MERS and Nipah virus infections in Asia. So in our partner countries, the One Health approach isn't new, and a general understanding of the issue exists in many countries.

I believe that the biggest obstacles are the absence of structures, for example in the veterinary sector, or in implementing phytosanitary measures, that is, measures meant to prevent the introduction of invasive species. The lack of authorisation structures and regulations is a problem regarding herbicides and medicines. Who will make sure that they are not harming the environment and health, or that the substances are applied correctly, so that no resistance to them develops? So we have to

support our partners in developing structures and integrating the One Health approach in them. We can further strengthen this by building networks. Some countries have already developed One Health strategies – here, we can definitely learn from each other. And of course education and information is important, concerning both certain practices and the benefits of One Health measures. For prevention is always better than cure.

Drawing a comparison with the outbreaks of H5N1 or SARS, nearly 20 years ago, are we better prepared to cope with pandemics today?

The H5N1 avian flu disease taught us a lot. It certainly was a wake-up call, and prompted the WHO, the FAO and the World Organization for Animal Health (OIE) to join forces as the Tripartite. Although the One Health approach wasn't new at this stage, the Tripartite refined the concept of One Health and established it at international level. Early-warning systems such as GLEWS – Global Early Warning System – have evolved, and surveillance, diagnosis and information systems have been improved and linked up in the shape of Regional Networks in Asia and Africa.

These structures provide us with a considerably improved arsenal of tools to address new outbreaks of diseases with an epidemic or pandemic potential. But it is also clear that every pathogen has its own specific properties and is therefore new to us. We don't know how to detect or treat it, and neither do we know anything about its epidemiology or the progression of the disease. Thus one lesson from the past and from the present situation is that we have to prepare for the unexpected. Therefore, we need to invest in structural changes: preventing instead of combating diseases! For instance with better hygiene standards and better standards and checks in the area of food safety, including in livestock and wild animal markets. We generally have to relieve the health systems of pressure from infectious diseases, including neglected tropical diseases.

Combating zoonoses bears a particular conflict potential, for example regarding forests – just take non-timber products. How can a balance of interests be achieved here?

First of all, we have to distinguish here between the sustainable use of forests and their products and the excessive exploitation and destruction of forests. The latter are far more dangerous, including with regard to zoonoses and their spread. Let me give you two examples. When tropical forests were destroyed in West Afri-

ca, flying foxes, which carry the Ebola virus, settled in the proximity of villages and towns, massively accelerating infection. Or take the relentless hunting of the pangolin, which is again and again mentioned as a transmitter of viruses. It is the most frequently poached animal and is illegally traded across the world – with the corresponding risk of infection for humans. This list could easily be continued. But this is something that is quite different from what the huge majority of indigenous communities are doing across the world. They make sustainable use of the forests and their products and at most engage in local trading of these products. Moreover, they have traditional knowledge which has taught them gentler, more careful handling of the forest. In my opinion, it's important to combine this knowledge with modern veterinary science knowledge in order to jointly develop and improve effective early-warning systems for wildlife zoonoses in tropical forest regions – and of course also to sensitise and inform the indigenous communities, who may be the first to be affected by outbreaks. I would concede that here and there, this can result in indigenous communities also having to accept restrictions of use – for their own and for everyone's wellbeing. This is why it is so important for us to offer these groups alternative sources of income. Here, development cooperation comes into play, and it has answers to these issues.

Where are we going to be in 2030 regarding the implementation of the One Health approach?

If we carry on what we are doing, which I'm confident we are going to, then we will have achieved quite a lot in ten years' time. My ministry has made One Health one of its ten "initiative areas", and in the strategy which we have now adopted, we have set ourselves two concrete targets which we seek to implement over the next four years. In this period, we are going to establish the topic as a firm part of our own work, but we will also be making progress internationally in promoting One Health. For One Health grows logically out of implementing the 2030 Agenda. In my view, poverty reduction, food security, health and the protection of our environment can only be achieved with a holistic approach. We have to protect our vital natural resources and must make agriculture more sustainable, and this is also exactly where One Health comes in. I would venture the forecast that in ten years' time, One Health will be quite commonplace in development cooperation.