

Portrait of Dafrossa Cyrily Lyimo

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Nowadays, fewer children die in Tanzania. As head of the national vaccination programme, 52-year-old Dafrossa Cyrily Lyimo contributes to this.

Without international support Dafrossa Lyimo would not be able to carry out her work in the form she does now. The Tanzanian state had not been able to afford the vaccines without financial assistance. Between 2011 and 2013, on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) and in cooperation with the globally operating Gavi Vaccine Alliance, KfW Development Bank made EUR 34 million available for the vaccination programme in Tanzania, a country with a population of 50 million. The Tanzanian government has to make a counterpart contribution of 20 cents per dose, the minimum amount required by Gavi as a counterpart contribution by developing countries for the promotion of vaccination.

"This cooperation is vastly important for us", says Dafrossa Lyimo. It has enabled Tanzania to introduce three new vaccines in the space of just a few years. A new fivefold substance protects infants against diseases including hepatitis B. The other two vaccines have also only been on the market a short time and are thus still relatively expensive: a vaccine against the rotavirus, which causes serious diarrhoea, and one against pneumococcus, which attacks the respiratory tract. The two pathogens are the most frequent cause of death among five-year-olds in developing countries. It is Dafrossa Lyimo who en-

sures that all of the participants cooperate smoothly. The head of the vaccination programme orders the doses via the United Nations and reports to KfW Development Bank locally in Dar es Salaam on their use. With her committed colleagues, she also ensures that the precious cargo reaches those who need it, wherever they are.

According to Dafrossa Lyimo, the vaccination programme has succeeded in tangibly reducing child mortality in Tanzania, where there are estimated to be 1.8 million children under the age of one. Initially, distributing the new vaccines was most of all a major logistical challenge. Because the vaccines are sensitive to temperature, the cold chain must not be interrupted during their transport. That is why KfW Development Bank also assists by means of infrastructure programmes in procuring refrigerators and supports professional dialogue regarding the modernisation of logistics systems at the regional level.

Dafrossa Lyimo is pleased that, to date, the programme has proven a success and there have been no shortfalls. "And the vaccination rate is higher than it was five years ago". Over 90 percent of babies are now vaccinated.

Dafrossa Lyimo has been heading up the programme since 2009. Before that, she was a public health officer at the Dar



Dafrossa Cyrily Lyimo

Tansanisches Gesundheitsministerium

es Salaam centre, where her responsibilities included the care of HIV patients. She also managed the public hospital there for eight years. Dafrossa Lyimo hopes that the cooperation with KfW Development Bank will continue. "We still need support with logistics and in the development of our capacities", she says.

The doctor also hopes to organise more educational work. For it is not easy to convince all parents to have their babies vaccinated several times at once. (sb) //



Infectious Diseases

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KfW expert
Holzäpfel: "We need
staying power"

Tuberculosis in Central
Asia: Saving lives
through discipline

KfW promotes
research into poverty-
related diseases

“We need staying power”

KfW Development Bank is committed to fighting infectious diseases in many different ways. As Andrea Holzäpfel explains in our interview, all aspects of health systems need to be strengthened.

An Ebola epidemic is spreading rapidly in West Africa. What does this tell us about the state of the health care systems in Liberia, Sierra Leone and Guinea?

First of all, it means that despite medical progress, infectious diseases still threaten to take the lives of many. The health care systems of the countries affected do not themselves have the capacity to promptly identify and prevent the spread of these diseases. To achieve this requires several steps to be taken: diseases must be diagnosed correctly and individual cases reliably reported to a central point. This would then form the basis for effective measures to be taken. Depending on the disease, treatment or vaccination is needed. In the case of Ebola, it is even necessary to isolate patients. All this is taking place in the three countries, but not to a sufficient extent, and there are a number of reasons for that. These include not only a chronic shortage of staff and the desperate state of the

health infrastructure and indeed, the overall infrastructure, but also a lack of medical equipment and medicines, limited access to doctors and hospitals, and low confidence in public institutions among the population.

Presumably the legacy of the civil war also plays a role?

Yes, we know it takes a very long time for a society to regain its stability. That also has an effect on the health system, which is a sector affected by many factors. An unsafe water supply, for instance, means a greater risk of illness, and poor roads make it more difficult to transport patients. The Federal Ministry for Economic Cooperation and Development (BMZ), on whose behalf we work, prioritises strengthening health systems. But that requires a great deal of perseverance and time because weaknesses can occur at very different points. It is therefore important to consider all framework condi-

tions with the utmost care already during the project design phase.

In what ways does KfW, on behalf of the German Federal Government, contribute to the strengthening of health systems?

We have a variety of approaches and tools for supporting our partners within the public and private health services in developing countries. We finance the expansion of the health infrastructure, for example by building hospitals and modernising medical equipment. We also promote the development of insurance systems and their preliminary stages so that the financing of health services does not cause families to fall into poverty and the costs do not act as a barrier to using those services.

Furthermore, we support the partner countries in the health education of their populations. Within the framework of social marketing programmes, such



Vaccination campaign against polio in India.

education focuses on e.g. ways that people can protect themselves against infection by HIV/AIDS or other sexually transmitted diseases. Branded condoms and contraceptives are advertised and sold via private traders throughout the country at subsidised prices. For the Federal Ministry of Education and Research, we help to finance the development of new medicines, vaccines and diagnostic tools. To this end, we promote product development partnerships.

Can the development of medicines not simply be left to the pharmaceutical industry?

No, because we are dealing with market failure here. One example among many others is leishmaniasis, which is endemic mostly in Africa and Asia and causes terrible skin lesions and organ failure. To date there is no adequate treatment and no vaccine. The average incomes in those parts of the world affected by leishmaniasis are so low that there is a need, but no effective commercial demand. That is why we support a product development partnership for the development of medicines. In turn, this partnership maintains contact with scientists, pharmaceutical companies, authorities and the like. Only when all relevant

parties are involved can medical drugs be developed successfully and then also be introduced at financeable prices into health systems, for the care of patients.

Are you perhaps spreading yourself too thin with your various approaches?

No, on the contrary, we deliberately pursue a variety of approaches in order to cope with the complexity of this diverse sector. We do our best to ensure that the approaches complement and are optimally integrated with each other. This enables us, for instance, to promote cooperation among a large number of different players, ranging from international organisations through national governments and local authorities right through to the final users. To take an example, KfW cooperates on behalf of the BMZ with the international Gavi Vaccine Alliance and the East African Community. This cooperation strengthens the vaccination programmes in East Africa, while the global strategies of international organisations are implemented at the regional level through support from KfW. Gavi was founded in 2000 as an international partnership involving state and commercial actors. It has proven a considerable success, with 440 million children

vaccinated thus far and about six million lives saved. We know the players and the challenges. That makes us a valuable partner.

Is immunisation the best way of combating infectious diseases?

It is not as simple as that. Immunisation is one of the most effective and cost-efficient health improvement measures in existence. Today the world is free of smallpox, and we hope to have eradicated polio soon. Between 2000 and 2007, immunisation reduced the number of deaths from measles by nearly 80 percent. But appropriate vaccines are not available for all diseases. For example, the prevalence of HIV/AIDS and malaria will have to be reduced by other means. Education and changes in behaviour are important. While a vaccine for tuberculosis does exist, it is not sufficiently effective. Here too, progress is needed urgently.

Reversing and halting the incidence of the three terrible diseases you just mentioned is one of the UN's Millennium Development Goals. Has there been any progress?

Yes, very much so. Today, 54 percent fewer children in Africa die of malaria than previously. There are significantly fewer new HIV/AIDS infections. Another piece of good news is that now more AIDS patients in developing countries are treated using retroviral drugs than seemed possible in 2000. But we cannot rest on our laurels. Throughout the world, around 3.5 million people fall victim to infectious diseases every year, most of them in the poorer regions. Children are at particular risk. To remedy this, every aspect of the health systems will have to be strengthened, and that requires staying power. //

i Health as a political goal

Improving the health situation of people in the developing countries is an important objective of German development policy. The current Ebola epidemic in Western Africa shows how urgently necessary it is to create sustainable, properly functioning health systems in developing countries.

The Federal Ministry for Economic Cooperation and Development (BMZ) believes that health is “simultaneously a goal, prerequisite and result of sustainable development”. Given this, Germany has agreed to convene the Gavi Alliance replenishment conference, which will take place in Berlin in late January 2015. If people are to take their fate into their own hands, they have to be healthy. The ill need the support of their families and can do hardly anything to support them. Protection against infectious diseases is an essential component in making the human right to health a reality.

More information at: <http://health.bmz.de/>



Andrea Holzäpfel is a public health expert at KfW Development Bank

Creating prospects

In 2012 alone, 470,000 people in South Africa became infected with the human immunodeficiency virus (HIV). People need self-respect and prospects for the future if the spread of HIV/AIDS is to be halted. Otherwise, young people especially are all too ready to take major risks.

Denzil Edgar, a stand-up comedian, makes fun of unsafe sex, but ultimately his message is a serious one: not using a condom is neither relaxed nor cool, but can cost lives. A thrilling music video promotes women's condoms. The message: I love life, I am taking my future into my own hands.

The YouTube channel of the LoveLife organisation offers reports, music videos and personal messages from prominent figures, all tailored to young people. These are intended not only to entertain, but also to educate their audience about one of South Africa's biggest problems: HIV/AIDS. This disease is the cause of a third of all deaths in the country.

Many know about the risk of infection, but nonetheless take that risk. Others are fearful of being tested. Anyone wanting to fight the virus must address different target groups and take the psychological aspects into account. On behalf of the Federal Ministry for Economic

Cooperation and Development, KfW Development Bank, as part of an overarching approach, promotes a variety of partners. This includes LoveLife – South Africa's largest national HIV prevention initiative aimed at young people.

Research shows that people are more willing to take risks when they have scarcely any prospects, little money and only a low level of self-respect. That is why LoveLife hopes to reach young people in difficult situations and boost their self-confidence. Nobody should feel they are alone. The organisation addresses young people's concerns and encourages them to play an active part in shaping their lives by various means, not only via the Internet. Those who have clear goals in life also have good reasons to avoid becoming infected. Using their smart phone, young people can create their own LoveLife profile. Young people who participate in an online quiz, forward videos or enter competitions are awarded points. Once they have collected sufficient points, they

can exchange these for branded clothing, mobile phones and other desirable items. HIV tests or high school graduation are rewarded with an especially high number of points. Thus LoveLife follows the successful model of conditional cash transfers: long-term meaningful action is directly rewarded with benefits.

Initial evaluations show that in fact more young people do want to take an HIV test. However, there are not enough institutions able to assist them and provide advice to those who have become infected. The expansion of HCT (counselling and testing) services is therefore also part of KfW Development Bank's concept. With its support, more than 200 health centres have now already been expanded and equipped. Additional centres are being planned. Mobile units with specially trained staff will reach out to the homeless and prostitutes.

To achieve a broad change in consciousness and reverse the spread of the disease, it is important most of all to mobilise young people. "Activate!" is the name of a programme organised by the DG Murray Trust foundation and supported by KfW. It helps young people across the country to launch their own non-profit projects, many of which are also dedicated to the prevention of HIV. To date, the young people have on their own initiative got almost 70 projects of this kind off the ground in their communities. For instance, in Ulundi youngsters distribute free condoms and sell branded ones at attractive prices. Their message: condoms are cool. Contemporaries are better than adults at communicating this kind of thing. No fewer than 600 young people have thus far participated in the Activate! network. Vera Dicke //



Participants of the "Activate!" programme.

The end of a long struggle

At last India is free of polio. The victory over this disease, also known as infantile paralysis, is the result of systematic vaccination and educational measures.

Sadly, Rukhsar Khatoon is known throughout India. She is the last documented case of polio in the South Asian country. The little girl from West Bengal embodies both tragedy and success. Tragedy, because Rukhsar became infected in the 21st century even though it never should have come to that. Success, because this vast country with its population of 1.2 billion has finally become free of polio.

In March 2014 and after three years without any new infections, India was certified as being free of polio by the World Health Organisation (WHO). International experts heralded this as a major success since many had feared that India would never achieve this goal. The size of the country, its population density, poverty rate and hygienic conditions had made this seem unlikely.

“Vaccination is the only form of protection against polio.”

Even in the early 1990s, more than 100,000 children fell sick with polio every year in India. In 2009 that number had fallen to “only” about 700. And finally with Rukhsar, in 2011 the last name was entered on a long list that has meant enormous suffering for many people.

Polio is an infectious disease transmitted from person to person. Normally, the virus is caught by the next victim via excreta as a result of inadequate hygiene. It attacks nerve cells in the spinal column, resulting in permanent paralysis of the arms and legs, and often in death. The victims are predominantly children aged under five.

At the start of the 20th century, polio was still feared in the industrialised countries. Even the former US President Franklin D. Roosevelt suffered paralysis. There is no treatment for those who have become infected. However, protection is offered by a preventive vaccination, which is routine for children in most countries.

North and South America have been free of polio since 1994, the Western Pacific regions since 2000, and Europe since 2002. Today polio remains endemic only in Afghanistan, Pakistan and Nigeria, and until recently in India too.

In the mid-1990s the country decided to implement a comprehensive polio eradication strategy and set out to immunise all children under five. This was carried out in national campaigns, which were held several times a year and in each of which 2.4 million volunteers penetrated the farthest corners of the country to vaccinate about 170 million children.

“The Indian programme to eradicate polio is exemplary”, says KfW project manager Gabriele Götz, “because it has systematically combined the vaccination campaigns with educational measures and countrywide monitoring”. With “Acute Flaccid Paralysis Surveillance” (the name of the monitoring system), the responsible persons can follow up any suspicion of new cases and provide additional vaccination quickly in the affected areas. KfW Development Bank has been supporting India's battle against polio since 1996. On behalf of the German Federal Government, KfW has made over EUR 240 million available. This was primarily intended to finance the vaccine for many millions of children. “A key element of India's success is the country's high level of commitment, a comprehensive



Latha Anantharaman

Polio will in future no longer cause harm in India: affected children in Delhi.

programme and good cooperation between the donors”, says Gabriele Götz.

The task facing India is now to preserve what has been achieved. Until the disease has been eradicated worldwide, there is always the danger of a new outbreak. This is why India has now not only begun to introduce routine immunisation everywhere, but is also passing on its experience to the three last polio countries, Afghanistan, Nigeria and Pakistan, so that in the foreseeable future the disease may also be a thing of the past there too. Only then can we be sure that Rukhsar Khatoon will truly remain the last Indian name on the list of those infected by polio. Friederike Bauer //

Saving lives through discipline

Tuberculosis is a growing problem for the Central Asian health systems. This is due to resistance against medicines and increasing HIV/AIDS rates.

Tuberculosis can be cured and yet it is the world's most fatal infectious disease. Central Asia is a particularly badly affected region. While the number of new infections is falling there, treatment is proving increasingly difficult. Many strains of bacteria have now become resistant to antibiotics. Furthermore, Central Asia has a dual epidemic on its hands, as more and more people are now infected with both HIV and tuberculosis.

Even ordinary tuberculosis has to be treated consistently with antibiotics for at least six months. In the 1990s, living conditions in the successor states of the Soviet Union deteriorated very considerably. Many tuberculosis patients were only treated for a short time or not at all. This gave rise to multi-resistant forms of tuberculosis that are not affected by normal antibiotics. This significantly reduces the chances of being cured. In practice, the Directly Observed Treatment Strategy (DOTS) disseminated by the WHO has proven its worth. At the health centres, patients are given antibiotics free of charge and take them in the presence of the health personnel. Only if the treatment is uninterrupted the pathogen can be prevented from devel-

oping resistance to the prescribed antibiotic. Discipline therefore plays a key role in successful treatment. KfW Development Bank helps ensure the health centres' supply of antibiotics.

A properly functioning health system is indispensable for effective treatment and the prevention of further infections. On behalf of the Federal Ministry for Economic Cooperation and Development (BMZ), KfW Development Bank thus supports the governments of Kyrgyzstan, Uzbekistan, Tajikistan and Kazakhstan with various measures, explains KfW health expert Peter Reff. These include the development of a network of basic laboratories for diagnosing tuberculosis.

Those suffering from the multi-resistant form of tuberculosis require different doses and antibiotics, necessitating precise diagnosis in specially equipped reference laboratories. Through partnerships with supranational reference laboratories, KfW Development Bank has been supporting the development of a special laboratory of this kind in each of the four countries. These will then also monitor the work carried out by the standard lab-

oratories and take over complex cases. The objective is to ensure that the right treatment is given by testing every tuberculosis patient for multi-resistance. Particular treatment is also needed by those infected with both HIV/AIDS and tuberculosis. Immunodeficiency renders these patients especially vulnerable to tuberculosis, while their prospects of being cured are poorer. Furthermore, the antibiotics have to be compatible with the anti-AIDS drugs. Patients are often treated incorrectly because they themselves or their doctors are ignorant of the HIV infection.

“Tuberculosis has to be treated with antibiotics for at least 6 months.”

This is happening with increasing frequency as HIV infection rates rise in Central Asia. The dual-epidemic problem is especially prevalent in prisons. The living conditions there create a breeding ground for both diseases. Moreover, the medical treatment often ends when the inmates are released.

The point has been reached where prisons too have effective antibiotics at their disposal and civil laboratories test inmates for tuberculosis. When a tuberculosis patient is released from prison, he is, for example in Uzbekistan, first sent to a special unit within the hospital until he has fully recovered.

Combating tuberculosis across the board requires close cooperation of all participants: ministries, hospitals, health units and laboratories. Another key component is that the national governments in the region now exchange the relevant information between them. Because the disease does not recognise national borders. Therefore KfW Development Bank also promotes transnational cooperation and acts as an intermediary. *Vera Dicke //*



Examining the lungs of a patient in Tajikistan.

KfW Photo archive/Photographer: Rendel Freude

Research protects the poor

On behalf of the Federal Ministry for Education and Research (BMBF), KfW Development Bank promotes the development of medicines, vaccines and diagnostics tools for poverty-related diseases into which, for commercial reasons, the pharmaceutical industry has no interest in conducting research.

They appear in the full light of day and are invisible to the human eye: mosquitoes which carry the dangerous dengue fever. Tourists visiting the FIFA Football World Cup saw the posters in many public facilities in Brazil and were confronted with the risk. There was no vaccination for them, just as there is none for the Brazilians themselves. The situation is the same for millions of people in the tropics. But in contrast to the well-off visitors, many of the indigenous people cannot afford treatment, and those in the often remote, hot wetlands first have to be correctly diagnosed in good time.

According to estimates by the World Health Organisation (WHO), roughly one billion people suffer from infectious diseases, with millions dying from them every year. Despite this, the pharmaceutical industry carries out almost no research into certain diseases because the potential profits are too low. Pathogens such as the Ebola virus in the current outbreak are found almost exclusively in developing countries. Those affected have little purchasing power, meaning that the pharmaceutical industry has no financial incentive for its R&D departments to develop diagnostic tools, medicines and vaccines.

To remedy this unhappy state of affairs, the international community has set up public-private product development partnerships. On behalf of the Federal Ministry for Education and Research, KfW Development Bank is currently supporting four such partnerships. One of them is the Foundation for Innovative New Diagnostics (FIND). The foundation is dedicated to the development of diagnostic methods for four parasite-borne diseases, including African sleeping sickness.

KfW has also made a contribution of EUR 1 million to the Dengue Vaccine Initiative (DVI), an international consortium led by a South Korean organisation. The consortium hopes to develop a vaccine against the Dengue virus. Both Brazil and Vietnam are participating in the research. The aim is that both countries themselves will one day be able to produce the vaccine in their own countries. At present there is no vaccine against malaria. In order to change this, KfW Development Bank is supporting the European Vaccine Initiative (EVI). This initiative is endeavouring to develop a vaccine that prevents serious malaria during pregnancy, since the course of the disease threatens the lives of both the mother and unborn child.

KfW is also funding research into a medicine for the treatment of leishmaniasis, a disease likewise caused by parasites. The Drugs for Neglected Diseases



Employee of a pharmaceutical company in India.

Initiative (DNDI) and its partners conduct research on this in East Africa, for example into a low-cost therapy for leishmaniasis combining already existing medicines. The goal is to make the treatment more easily tolerated and effective. A further aim is the clinical development of a new active substance. *Christoph Süß //*

KfW Photo archive/Photo agency: photothek.net

i Product Development Partnership

It is hoped that, in relation to vaccines, diagnostic tools and the treatment of diseases, product development partnerships (PDPs) will trigger R&D that has not previously taken place due to a lack of interest on the part of the pharmaceutical industry. Within the framework of international cooperation, this is supported mainly by public, but also by private funds (e.g. from the Bill & Melinda Gates Foundation). There is cooperation between the ministries of the affected countries, non-governmental organisations, research institutions and pharmaceutical companies. The PDPs coordinate the work. They are non-profit based and ensure the market launch of new, affordable and appropriate products specifically for people in developing countries. There are currently 15 PDPs around the world, all dedicated to combating a variety of infectious diseases. Since 2011, KfW Development Bank has worked with them on behalf of the Federal Ministry for Education and Research, and is currently contributing EUR 21 million. (cs)