

## **BRIEFING PAPER**

**June 2017**

# **A vision for an African continent that solves problems collectively**



The challenges facing Africa and the world are diverse and growing – from climate change and population growth to globalisation and its impact on disease outbreaks. Now, more than ever, the global community needs to work together to tackle these challenges. One Health offers a pragmatic, effective and cheaper way to

protect people, planet, livelihoods and economic security. SACIDS – the South African Centre for Infectious Disease Surveillance – is at the forefront of this movement in Africa. Its research demonstrates how governments can take action to integrate One Health into policy, making development more healthy, sustainable and economically secure.



## **Introduction: Unleashing new ways to tackle global challenges**

Climate change, population growth, urban development and globalisation pose complex threats to life across the planet.

The links between animal, human and environmental health are acutely affected by these threats. They have always been closely entwined, but today, our survival depends more than ever on understanding these connections and taking action to protect the health of all three, together.

For example, changing weather patterns affect the water available for livestock and humans. Urban sprawl cuts into traditional migration routes of pastoralists and animals, creating conditions ripe for disease. The degradation of the environment through pollution and deforestation has a direct impact on human and animal health.

In Africa, these threats are acute: the continent has the fastest growing population on Earth<sup>1</sup>, a population heavily reliant on agriculture and livestock, and urban development is pushing animals and humans together as never before.

The Ebola crisis in West Africa in 2014-2016 is one example of how the close relationship between animal and human health, urban development, migration and globalisation can create the conditions for dangerous epidemics – but there are many more. Without urgent action, lives, livelihoods and the environment will deteriorate rapidly.

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<sup>1</sup> [World Population Prospects](#) (United Nations, 2015)

Now, more than ever, we need new ways of thinking and acting to tackle these challenges together, in a way that takes into account entire ecosystems, not just human beings.

This is crucial for the future of humankind, livelihoods, and the planet we live on. And it is crucial to development and wellbeing in Africa.

## **So what can be done?**

Researchers in Africa have been coming up with answers to some of these problems, with SACIDS – the Southern African Centre for Infectious Disease Surveillance – leading the way. Their research shows how, with a few simple steps, countries and communities can work together to improve animal, human and environmental health, while at the same time safeguarding livelihoods and boosting national GDP.

Africa can lead the way in making these ideas – known as ‘One Health’ – the first option for sustainable policy and research, showing the rest of the world how and why it works.

What Africa and the world *now* need is policymakers to stand up, take these ideas on board and act boldly for the future of the continent and the planet.

## **What is One Health and why is it crucial for Africa?**

One Health promotes research and action that looks at the health of humans, animal and environment collectively, and comes up with solutions that benefit all three.

For far too long, science has taken a very different approach. Conventional science



and health programmes tend to treat these separately, making treatment less effective and damaging health.

For example, action to tackle Rift Valley Fever often focuses on animals but ignores the vital ways that relationships between animals, humans and ecosystems affect the spread, control and prevention of disease. This leads to measures that fail to control or prevent disease in the most effective way, and end up damaging humans, livestock and the environment, with devastating effects on local livelihoods and national economies.

One Health takes a different approach. It takes a step back, to consider the health of humans, animals and the environment together, as an entire ecosystem. To do so, it brings together perspectives and knowledge to understand how the health of all three connect and to draw up solutions that benefit all.

This is a vital for health, but it is also vital for economies, improving local and national knowledge, livelihoods and trade.

- One Health promotes a way of working that recognises the deep interconnections between animal, human and environmental health, and finds solutions to benefit all
- It brings together researchers from human, animal environmental and social sciences to study animal, human and eco health together
- With this cross-sector knowledge, One Health teams can then design solutions that benefit entire

ecosystems, animal health and the livelihoods of the people within it

- One Health strengthens our resilience and ability to prevent disease outbreaks, epidemics and even global pandemics
- One Health is financially savvy: when you protect the health of animals, humans and environment, you protect livelihoods and the resources we all need to thrive.

**“One Health is vital because it enables us to think of the totality of the problem rather than in a piecemeal way. It should no longer be just a fashion. It is a necessity.”**

**– Professor Mark Rweyemamu,  
Director, SACIDS**

### **Africa: a continent at the forefront of One Health**

Much of the One Health work on Africa is led by scientists from outside Africa and looks at the risk of large-scale epidemics or pandemics.

SACIDS takes a different approach. It looks at One Health from an African perspective, asking how health challenges affect people, livelihoods, animals, wildlife and the environment.

Africa is home to many communities for



whom sustainable and communal agriculture and systems are a way of life. Indeed, the industrialised world would do But the continent is still severely affected by disease, including those eradicated in industrialised countries. Climate change and globalisation are increasing the spread of disease and making it more difficult to prevent and control.

This is why One Health research and programmes are so important for animal, human and environmental health in Africa.

### **One Health: a powerful weapon in the fight against infectious disease**

One Health is vital for tackling disease.

We now know that 75 per cent of all emerging infectious diseases that have affected humans over the past three decades originated from animals<sup>2</sup> – HIV, Ebola, malaria and rabies, to name a few.

These diseases don't remain compartmentalised: they move between animals and humans with little regard for the sectors and disciplines that define the study of disease. Pathogens, particularly viruses, tend to move between species, within a shared environment.

Climate change and globalisation are creating conditions for disease to move around more easily and quickly.

“If we work in absolute silos, that is to the advantage of the pathogen,” says Mark Rweyemamu, SACIDS Director. “A way of us outsmarting the pathogen, would be to do what they do in the opposite direction.”

Globalisation presents another set of

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<sup>2</sup> [Asia Pacific Strategy for Emerging Diseases](#) (2010)

well to learn from these models rather than attempting to impose their own versions of ‘development’ on African countries. problems. It creates the conditions for swift movement of people and animals, meaning that diseases can move from the point of origin to other parts of the world very quickly – as the 2014-2016 Ebola crisis showed.

Researchers need to work together, moving across sectors and disciplines, just as pathogens move between species. “One Health becomes a way of outsmarting the pathogen,” says Rweyemamu.

**“We can't afford to fight diseases by remaining in small silos. We have to work together to tackle these problems.**

**Only then will succeed.”**

**– Professor Mark Rweyemamu,  
Director, SACIDS**

SACIDS has been working to transform African countries' capacity to detect, identify, monitor and prevent disease.

SACIDS is now well equipped to help governments respond when crises break out, and to cement effective partnerships across borders.

**“Pathogens do not recognise borders”**

**– Professor Mark Rweyemamu,  
Director, SACIDS**



## Tackling disease at source

Studies show that 72 per cent of the disease burden in Africa is attributable to poverty and interactions between socio-economic opportunities and the health of animals, people and ecosystems, compared to 27 per cent in the rest of the world.<sup>3</sup>

Africa needs better capacity for detecting, identifying and controlling disease at source: this is the best defence regionally and globally against diseases.

Many diseases originate in Africa, often in rural settings. It can take time for these diseases to spread from rural to urban settings, but when they do, the devastation is immense.

One problem here is that the services needed to do this are often a long way from the source, presenting challenges for research and treatment.

SACIDS has been researching and devising systems for disease detection and control at a fraction of the cost of conventional laboratories. These include mobile phone-based systems for detecting, diagnosing disease and treating disease.

This research will help Africa fix its health systems and build up resilience. “Over and above looking at vaccines, we need to strengthen health systems,” says Mark Rweyemamu. “If we don’t it is likely to be much more expensive.”

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<sup>3</sup> Mark Rweyemamu et al [The changing landscape for health research in Africa: The focus of the Southern African Centre for Infectious Diseases and Surveillance](#) (*Journal of Veterinary Research*, 2014)

**“Africa needs to think about prevention rather than cure. This doesn’t make a lot of headlines, but it’s where we need to start.”**

**– Professor Mark Rweyemamu,  
Director, SACIDS**

## The smart, financially savvy way to tackle Africa’s problems

One Health makes economic sense.

Responding to the devastation wrought by an epidemic is usually far more expensive than putting in place the basics to prevent an epidemic happen.

Protect livelihoods and make communities more resilient to disease, and you protect national economies. A few dollars invested up front means substantial savings in the long run.

African governments need to focus more on resilience and prevention - rather than responding to disease outbreaks after they occur. This makes sense for people and it makes sense of economies.

This doesn’t mean huge, expensive laboratories in far flung rural areas. The technology is out there to transform African health systems cheaply – using the mobile phone for disease detection and diagnosis, for example. If Africa can use mobile phones to transform money transfer, why



not to transform health?

## 5 reasons why policymakers should support One Health:

- **Africa needs to be equipped to protect against threats.** One Health is the best way to protect society and environment
- **Efficiency:** It is far more efficient and effective than other types of research and programmes, and creates much greater health security
- **It makes financial sense:** every cent spent improving health and building resilience saves thousands of dollars in the long run
- **Health:** It improves human health and saves lives, now and for future generations
- **Environment:** It safeguards Africa's vital wildlife and protects the environment upon which we depend for life, livelihoods and tourism
- **Leadership:** It positions Africa as a leader in a vital, growing field. African governments need to take the lead in showing the rest of the world the way forward

## 6 recommendations for policymakers:

- **Take One Health seriously:** SACIDS can help policymakers gain a richer understanding of One Health and why it makes economic sense
- **Take into account the health of *all* species** when drawing up policy and development plans
- **Develop systems** for creating policy across sectors, taking into account different challenges and needs, and across borders
- **Invest in disease prevention**, rather than short-term fixes *after* crises break out
- **Support the collection** of transdisciplinary, cross-sector evidence
- **Create One Health platforms** bringing together scientists and government officers from across ministries, sectors and disciplines

**“I hope very much that as Africa develops on its own terms it will [...] promote a very different and more sustainable vision for the future of humanity and the environment”**

**Richard Kock, Professor of Wildlife Health and Emerging Diseases,  
Royal Veterinary College, UK**

### Notes to editors:

- [SACIDS](#) (the Southern African Centre for Infectious Disease Surveillance) is a virtual centre with a physical base at the Sokoine University of Agriculture in Tanzania. It was established in 2008.
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