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Improving Health in Africa through Intelligent Data Integration

Background

In the context of an increasingly challenging global environment characterised by pandemics, climate change and food insecurity, the intelligent use of data to safeguard global health is of paramount importance. From Artificial Intelligence to the utilisation of big data, technical solutions are transforming our capacity to prepare for challenges on a global scale.

While digital transformation is increasing across Africa, rapid urbanisation, deforestation and increased human-wildlife contact are contributing to the emergence of new infectious diseases. Zoonotic diseases, which are transmitted from animals to humans, are a significant health concern in Africa and present constant threat of epidemics and pandemics. Most African countries do not have sufficient capacity to detect and effectively respond to such outbreaks. Additionally, the widespread presence of sick and unproductive domestic animals contributes to food insecurity, economic instability and poses risks to human nutrition. Climate change compounds these challenges by altering disease patterns, fueling the emergence of drug-resistant disease strains and intensifying existing health problems. The German government, through the Federal Ministry for Economic Cooperation and Development (BMZ) supports Africa's digital transformation with the One Health Data Alliance Africa (OHDAA) project. The project develops digital solutions and promotes the use of data to protect health and socio-economic well-being in Africa.

Our approach

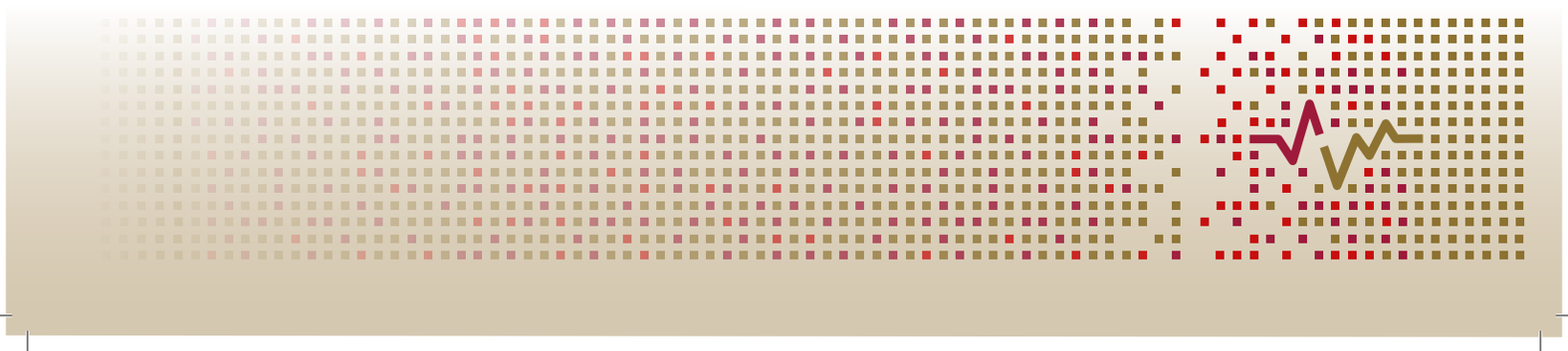
The One Health approach encourages collaboration between sectors to address the complex challenges that exist at the nexus of human, animal and environmental health. In collaboration with our partners, we identify challenges pertaining to the sharing of data and information when operationalising the One Health approach and to reduce the complexity, we identify concrete use cases with our partners and stakeholders. For instance, combating Antimicrobial Resistance (AMR), predicting and controlling zoonotic and vector-borne diseases like rabies, yellow fever or malaria are examples of specific use cases of relevance to Africa.

Project name	One Health Data Alliance Africa (OHDAA)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Project region	Africa
Partners	African Union – Inter African Bureau for Animal Resources (AU-IBAR) Africa Centres for Disease Control and Prevention (Africa CDC) Smart Africa Intergovernmental Authority on Development (IGAD) Ministries in Cameroon, Malawi and Rwanda
Duration	01.2022 – 12.2025
Financial volume	5.5 million EUR

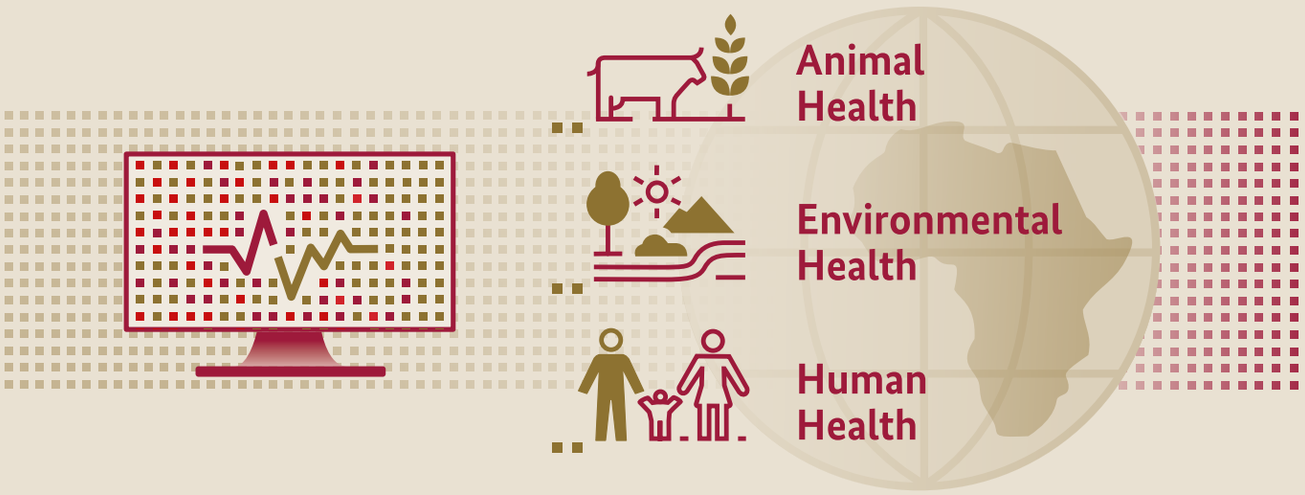
If we take the example of rabies eradication, it is essential to facilitate the sharing of data on rabies cases between clinicians and veterinarians. Similarly, meteorological data can help predict and monitor vector-borne diseases such as malaria and yellow fever. By bridging data siloes, we create data-driven building blocks for artificial intelligence and with the derived information our partners can formulate evidence-based policies to secure health on the African continent.

Principles for One Health Data Exchange on the African Continent

Under the auspices of the African Union – Inter African Bureau for Animal Resources (AU-IBAR), a technical working group develops a One Health Information Policy and Architecture. The document, which has been endorsed by the African Union, sets out principles for integrating and sharing data from different sectors and facilitates data sharing between countries. It also provides guidance to institutions across Africa in designing, developing, and maintaining One Health information platforms. The technical working group includes representatives of the African Centres for Disease Control and Prevention (Africa CDC), Regional Economic Communities (RECs), African Union member states ministries, academia and civil society.



One Health Data



Open-Source Technology and Data Analytics for Decision Makers

Based on the One Health Information Policy and Architecture and the use cases identified by our partners, existing data and information systems are assessed. Data sharing agreements including data standards and aspects of data governance are developed to ensure secure data sharing among institutions and countries.

Using open-source solutions, we support our partners to integrate different types of data, apply analytical models and visualise the results, thereby enabling governments and decision-makers to take targeted preventive action. The solutions developed are digital global goods that can be implemented and scaled across Africa and globally.

Capacity Development in One Digital Health

The fundamental premise of our approach is to foster the collaboration between individuals, institutions and governments. Our work on the One Digital Health nexus is based on the principles of trust, shared interests and a willingness to learn from each other. For this reason, a community of practice facilitates the sharing of learning experiences and the strengthening of capacities in One Health data analytics and digital health. The community operates under the auspices of the Africa CDC and Smart Africa's Digital Transformation Strategy and convenes data and digital health experts from across the continent.

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