

Focused Summary for DELTAS Africa II – 14 Networks and their Leadership



## Introduction

The Developing Excellence in Leadership, Training, and Science in Africa (DELTAS Africa) is a long-term, multimillion dollar programme launched in 2015 to support collaborative consortia led by Africa-based scientists to amplify Africa-led development of world-class research and scientific leaders on the continent, while strengthening African institutions. DELTAS Africa seeks to produce researchers who drive locally relevant and high-quality health research impacting on science, policy and practice in Africa and contributing to improved health and development on the continent and globally.

The Science for Africa Foundation (SFA Foundation) is implementing the DELTAS Africa programme and manages the second phase, DELTAS Africa II, 2023-2026 with the support from Wellcome and the UK Foreign Commonwealth and Development Office (FCDO). This second phase kicks off in 2023 with 14 consortia led from 8 African countries with partnerships across 35 countries and 71 institutions in Africa and globally.

The funding by SFA Foundation and management of DELTAS Africa II Consortia is premised on how the 14 Consortia will deliver two key pillars of Science and Innovation:

- Science leadership & quality outputs and outcomes
- Strengthening the Research and Development (R&D) ecosystem through cross-cutting priorities

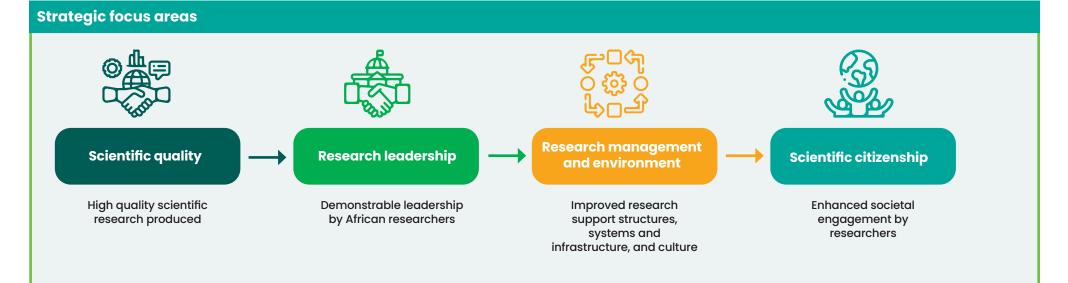
The focus is to improve Africa's research ecosystem through the production of quality science, a critical mass of science leaders; addressing and linking country level challenges via Science Innovation, Translation and Entrepreneurship; and strengthening science ecosystems and infrastructure that is conducive to deliver R&D outcomes for Africa.

These approaches are defined in the SFA Foundation Strategy (2023-2027) and white paper on the interconnectedness of Climate change, Food Security and Health. The Consortia are also aligned to the African Union defined strategies - Agenda 2063 and STISA 2024. SFA Foundation is cognizant of the need to limit programmes investments on limited resources and to urgent priorities. Therefore, as stipulated in the SFA Strategy, for the next five years the focus is on thematic priorities of Health, Climate and Agriculture R&D for food security, driven by Discovery, Translational and Implementation sciences. The delivery expectations are clearly articulated by the DELTAS Africa II Theory of Change and the metrics are based on; strengthening science leadership and careers; science innovation, translational sciences & entrepreneurship; and how DELTAS Africa has strengthened the science ecosystem across the continent.

Three questions anybody seeking DELTAS Africa information or partnership would be asking include:

- Who are the leaders? (Programme Directors, their institutions, partners, collaborations etc.)
- What do the consortia do? (Science priority areas i.e., discovery, translational, implementation/policy)
- What impact have/will the consortia achieve? (People, Places, Policies, Products, Partnerships)

This summary presents the 14 DELTAS Africa II Consortia cross-cutting capacity development for future leaders undertaking projects in research conducive environments and science outputs for impact.



## **DELTAS Africa II: Global networks**

Coun	ntry	Consortia nar	ime
Cote	d'Ivoire	Afrique-One F	REACH
Ghar	na	WACCBIP-DEL	
Ethic	Ethiopia REACCT-CAN		
Keny	a	ALMA	The start of the s
Keny	a	CARTA2025	
Keny	a	IDeAL	
Mali		DELGEME Plu	us
Sene	gal	MARCAD Plus	IS
Sout	h Africa	CASCADE	
Sout	h Africa	CZASE	
Sout	h Africa	SANTHE 2.0	
Sout	h Africa	SSACAB II	
Tunis	5	ALS	
Zimb	abwe	AMARI II	
14	Funded I	nstitutions	All hosted in Africa
71	71 Partner institutions		53/71 institutions in Africa
35	<b>35</b> Partner host countries		26/35 countries in Africa

ID Number	Broad Health R&D and Related Areas	Science Focused Objectives	Programme Network/ Consortia	Programme Director & Lead / Hub Institution	Key Partners (those with defined work packages & budgets for each consortia)
Del-22-01	Malaria & (Neglected Tropical Diseases (NTDs)	Objectives are focused on three complementary approaches for malaria control, namely chemoprevention, vector control, and surveillance, with special attention to potential synergies for NTDs control, within the new global context where climate change and the current Covid-19 pandemic increases the challenges faced by National Control Programs	Malaria & Neglected	<b>Oumar Gaye</b> Universite Cheikh Anta Diop de Dakar, Senegal	<ol> <li>Medical Research Council Unit, The Gambia</li> <li>MRTC/Icermali/ USTTB, Mali</li> <li>Bandim Health Project, Guinea Bissau</li> <li>University of Sierra Leone, Sierra Leone</li> <li>University of Health and Allied Sciences, Ghana</li> <li>University of Yaoundé 1, Cameroon</li> <li>Centre for Research in Infectious Diseases (CRID), Cameroon</li> </ol>
Del-22-02	Neuroscience	The network seeks to understand neurobiological mechanisms, case identification, assessment methodology and childhood interventions to maximize long-term outcomes in children as they emerge into adults i.e. explore three topics; mechanisms of brain development; measurement of brain function and behaviour; Interventions to promote child development.	ALMA Consortia African Leadership for Measuring brain health in children and Adolescents	<b>Amina Abubakar</b> Aga Khan University, Kenya	<ol> <li>University of Cape Town, South Africa</li> <li>University of Malawi, Malawi</li> <li>University of Zambia, Zambia</li> <li>University of Oxford, United Kingdom</li> <li>Harvard School of Public Health, United States of America</li> </ol>
Del-22-03	Climate & Health	Objectives are to advance Africa's response to urban climate and health risks. This is achieved through: (a) innovative research across natural and social sciences to build rich inter-disciplinary evidence; and (b) transdisciplinary research engagement that acknowledges the complexity of urban health challenges; and will facilitate the necessary learning beyond the disciplines while building trusting and sustained relationships across the science/policy interface.	Consortia Cascading Climate and Health Risks in	<b>Bruce Hewitson</b> Climate System Analysis Group, University of Cape Town, South Africa	<ol> <li>Red Cross Red Crescent Climate Centre, Netherlands</li> <li>University of Ghana, Ghana</li> <li>African Population &amp; Health Research Centre, Kenya</li> <li>Chinhoyi University of Technology, Zimbabwe</li> <li>International START Secretariat, United States of America</li> <li>University of the Witwatersrand, South Africa</li> <li>Makerere University, Uganda</li> </ol>
Del-22-04	Mental Health	Driven by five key research questions/interventions that reduce the treatment gap for mental health disorders. The research questions are underpinned by nine cross-cutting themes of youth, gender, ethics, multi-morbidity, suicidal behaviour, COVID19, complex interventions, mental health systems, and public engagement i.e. acceptability, feasibility, and effectiveness of culturally appropriate interventions for mental disorders; validity and reliability of instruments for assessing mental health needs and outcomes; social determinants of mental health; effects of COVID-19/other diseases on mental; specific support needed to early career mental health researchers.	AMARI II Consortia African Mental Health Research Initiative 2.0	<b>Dixon</b> <b>Chibanda</b> University of Zimbabwe	<ol> <li>King's College London, United Kingdom</li> <li>Addis Ababa University, Ethiopia</li> <li>University of Malawi, Malawi</li> <li>University of Zambia, Zambia</li> <li>University of Cape Town, South Africa</li> <li>London School of Hygiene and Tropical Medicine, United Kingdom</li> <li>University of Ghana, Ghana</li> </ol>

Del-22-05	Neglected Tropical Diseases - Leishmaniasis	Aims to translate advances in sciences including genomics for novel control and surveillance tools and strategies; to leverage the novel control tools to support diagnosis and patient management, and vector control; and to build interactive disease distribution- and predictive risk- maps for programmatic use; to engage strategic research and Think-Tanks to accelerate use of evidence in policy towards control and elimination of leishmaniases.	ALC Consortia African Leishmaniases Consortium for developing a paradigm for eliminating neglected diseases in Africa.	<b>Ikram Guizani</b> Institut Pasteur de Tunis, Tunisia	<ol> <li>University of Sciences, Techniques and Technology of Bamako, Mali</li> <li>Armauer Hansen Research Institute (AHRI), Ethiopia</li> <li>Pasteur Institute of Algeria, Algeria</li> <li>Institut Pasteur of Morocco, Morocco</li> <li>Ibn Sina University, Sudan</li> <li>University of Ibadan Research Foundation, Nigeria</li> <li>Barcelona Institute for Global Health, Spain</li> </ol>
Del -22- 06	Multi-sectoral Health R&D and Health Systems	Objectives are expanding research hubs that will address the complexity of health issues, addressing social, environmental, economic, and political determinants of health and health systems strengthening with a multidisciplinary perspective. Ultimately these approaches will address research questions central to Africa's intractable health challenges, which is a failure to deal with the complexity of disease and how health is produced and maintained, which demands a multidisciplinary and multi-sectoral approach.	CARTA2025 Consortium for Advanced Research Training in Africa	Catherine Kyobutungi African Population & Health Research Centre, Kenya	<ol> <li>University of Witwatersrand, South Africa</li> <li>University of Nairobi, Kenya</li> <li>Makerere University, Uganda</li> <li>University of Malawi, Malawi</li> <li>Ifakara Health Institute, Tanzania</li> <li>University of Ibadan, Nigeria</li> <li>University of Rwanda, Rwanda</li> </ol>
Del-22-07	HIV & TB Research	This is multidisciplinary, collaborative consortium is leading locally relevant discovery and policyimpacting science on HIV/AIDS and TB by pioneering basic, clinical and translational research with the intention of translating findings into new tools to control these endemics. This includes building platforms in virology, immunology, molecular biology, and genetics to understand the complex interaction between the host and pathogen. The research work will expand to include HIV/ART-associated co-morbidities including non-communicable diseases, and studies on the diversity of HIV-1 subtypes to reflect the changing public health needs of the HIV/AIDS epidemic in sub-Saharan Africa; focus on understanding how interactions between the host immune system and how the pathogen affect clinical outcomes following exposure or infection; impacts by pathogens on clinical outcomes following exposure or after infection; pathogen diversity and its consequences for the spread of diseases; samples from donors with heterogeneous immune control of HIV, TB, or SARS-CoV-2, both in the absence or presence of treatment; how innate and adaptive immune responses may prevent people from getting infected or lead to durable viral control in those already infected; mechanisms that ultimately lead to loss of immune control and disease progression, particularly pathogen adaptation to or evasion of host immune responses. The ultimate goal is to continue translational pathways into prophylactic and/or curative strategies for HIV/AIDS and TB.	SANTHE 2.0 Sub-Saharan Africa Network for TB/HIV Research Excellence	Thumbi Ndungu The Africa Health Research Institute (AHRI), University of KwaZulu, South Africa	<ol> <li>Botswana Harvard AIDS Institute Partnership, Botswana</li> <li>Collaborative Clinical Research Centre, USA</li> <li>Zambia Emory HIV Research Project, Zambia</li> <li>Makerere University, Uganda</li> <li>KEMRI-Wellcome Trust Research Programme, Kenya</li> <li>Center of Research for Emerging and Re-Emerging Diseases (CREMER), USA</li> </ol>

Del-22-08	Cancer R&D	Cancer is an increasing health epidemic on the African continent due to ageing and environmental-lifestyle transitions, coupled with under- resourced oncology services, and the lack of evidence to guide prevention, policy and practice. The vision is to generate a sustainable, African-led, interdisciplinary research groups in oncology and cancer sciences with expanded collaborative networks, and increasing international cancer collaborations with impact on African cancer challenges. The objectives of the Consortia is to tackle molecular and inflammatory aspects of etiology, biomarkers of early detection, treatment response, prevention, mitigation of late presentation, optimized treatment and reduced high mortality rates. The work packages for research will develop high quality projects on primary and secondary cancer prevention, and genetic variation studies. Research support structures used for translational and public health sciences will be developed in close interaction with civil and governmental societies. This includes state-of-the-art molecular and cancer epidemiology research methodologies and increased societal awareness of growing cancer burdens, needs, evidence and achievements in cancer care. Across the consortia will be joint molecular and implementation research collaborations will provide expertise spanning cancer registration, epidemiology, etiology and genetics, implementation research and treaching. Collectively these approaches will help Africa to achieve universal access to affordable, high quality and timely diagnosis, treatment and care for cancer patients, so that morbidity and mortality due to cancer will be reduced and save lives.	REACCT-CAN Consortia Research and Excellence in African Capacity to Control and Treat CANcer	Adamu Addisie Addis Ababa University	<ol> <li>Cairo University, Egypt</li> <li>Wits Health Consortium (Pty) Ltd, South Africa</li> <li>Martin-Luther-University Halle (Saale), Germany</li> <li>World Health Organization, Switzerland</li> <li>Kilimanjaro Clinical Research Institute, Tanzania</li> </ol>
Del-22-09	Biodata for Population Health	The overall goal is to build biostatistical research excellence through answering questions of practical policy relevance to improve population health i.e. i) application of machine learning, deep learning and artificial intelligence (AI) algorithms to enhance personalised treatment for patients with communicable and non-communicable diseases in Africa; ii) spatial and temporal occurrence and patterns of critical diseases to predict climate and environmental changes, and impact on public health and development outcomes; iii). identify the relationship between personal characteristics, environmental changes and diseases through causal modelling and structural equation modelling; iv) observational data to assess interventions where clinical trials are unethical or to evaluate ongoing public health interventions v) methodologies to account for missing data in health research vi)bioinformatics to enable laboratories to analyse their own "omics" data; vii) biostatistics methods useful for data triangulation and synthesis of evidence for practical policies.	SSACAB II: Sub-Saharan Africa Consortium for Advanced Biostatistics training	Tobias Chirwa University of Witwatersrand, South Africa	<ol> <li>University Medical Center Utrecht, Netherlands</li> <li>University of Abomey- Calavi, Benin</li> <li>Kenya Medical Research Institute (Kemri), Kenya</li> <li>South African Medical Research Council, South Africa</li> <li>University of KwaZulu-Natal, South Africa</li> <li>Moi University, Kenya</li> <li>London School of Hygiene and Tropical Medicine, United Kingdom</li> </ol>

Del-22-10	Climate Change	The consortia will embark on studies on six sites along Africa's eastern edge, the conditions of habitability in the critical zone (CZ), in order to propose governance strategies that partner with ecological processes and communities to avert climate catastrophes and strengthen African approaches to environmentalism in global climate negotiations. The studies/projects will understand cascading societal challenges and risks arising from changes in the CZ, and propose remediations with attention to remediating local conditions of habitability through (1) integrate knowledge of habitability with soil health; (2) advance continental, regional and local goals, (3) devise new methods, curricula, policy and communications strategies to initiate governance changes; (4) contribute to realising the "urgent and radical shift in our food systems" called for in the Global Action Plan for the UN Decade of Family Farming (2019–2028), and (5) offer planners an evidence-based approach to protecting critical-zone-based habitability, linking across sciences, social sciences, humanities, planning, law and policy.	<b>CzASE Consortia:</b> Critical Zones Africa South & East	Lesley Green University of Cape Town, South Africa	<ol> <li>Addis Ababa University, Ethiopia</li> <li>Lilongwe University of Agriculture and Natural Resources, Malawi</li> <li>University of Zimbabwe, Zimbabwe</li> <li>University of Dar es Salaam, Tanzania</li> <li>Universidade Eduardo Mondlane, Mozambique</li> <li>Human Sciences Research Council, South Africa</li> </ol>
Del-22-11	One Health	The capacity of existing health systems to effectively tackle profound epidemiological shifts remains limited and while the value of One Health is well recognised, there is an imperative to translate advances in One Health to improve health, wellbeing, lives and livelihoods. The peogramme is driven and inspired by inter- and transdisciplinary One Health research. The broad scientific objectives is to study critical new health challenges underpinned by on-going burden of infectious diseases increasingly exacerbated by a growing threat from non-communicable diseases. The approach is intervention-research and study areas of innovation, validation, intervention and changes. The Consoria will prioritize geographical zones which bear the highest burden of the targeted health challenges (zoonoses, NTDs and NCDs). As examples, some specific areas will focus or will compliment studies of Zoonoses; Blockchain high coverage rabies post; exposure prophylaxis to achieve zero human rabies deaths in Africa; preventing & delaying the development of diabetes in Africa; randomised placebo-controlled double-blind phase III trial of metformin in HIV-infect (with funding from other sources); Clinical evaluation of a LAMP diagnostic for Treponema pallidum pertenue (YAWS); studies of emerging infectious diseases in East and Central Africa; etc. The consortia will use existing animal, human and environmental data for modelling and informing public health, veterinary science, wildlife and ecology, social anthropology, and economics.	REAĊH Consortia:	Bassirou Bonfoh Centre Suisse de Recherches Scientifiques en Côte d'Ivoire (CSRS)	<ol> <li>Noguchi Memorial Institute for Medical Research, Ghana</li> <li>Université de Liège, Belgium</li> <li>Sokoine University of Agriculture, Tanzania</li> <li>Kilimanjaro Clinical Research Institute, Tanzania</li> <li>Swiss Tropical and Public Health Institute, Switzerland</li> </ol>

Del-22-12	Multi- Disciplinary Infectious Diseases Research	The IDeAL Consortia is focused on sciences and training that will be integrated with multi-disease research within a vibrant multidisciplinary research environment at partner and collaborating institutions. The choice of questions that IDeAL fellows will address will be informed by local health priorities and the prevailing Africa health concerns. IDeAL will also focus on closing the knowledge translation gap by continuously engaging with national and global health organs and stakeholders to enhance research uptake. Broad research areas could include: focusing on the major causes of morbidity and mortality in Africa such as projects in epidemiology and demography (research spanning disease aetiology, disease burden, intervention coverage, factors determining infection dynamics in relation to host behaviour and demography, and pathogen strain structure); clinical research (childhood Acute Illness & Nutrition, HIV transmission, data trial monitoring, data management, regulatory advice, and management and GCP training): health systems and research ethics (embedded approach characterized by partnerships and co-production of research with health sector policy makers, implementors and health care practitioners, effective interventions to achieve desired health outcomes, adaptive systems, health Economics research on economics of health systems, evaluation of health care interventions); and other many areas of biosciences (pathogen biology, a major focus on malaria with the development of research in HIV, arboviruses, antimicrobial resistance, bacteria etc)	IDEAL Consortia: Initiative to Develop African Research Leaders	Samson Kinyanjui KEMRI-Wellcome Trust Research Programme (KWTRP), Kilifi, Kenya	<ol> <li>Centre for Infectious Disease Research in Zambia (CIDRZ), Zambia</li> <li>Epicentre, Niger</li> <li>Pwani University, Kenya</li> <li>Strathmore University, Kenya</li> <li>University of Glasgow, United Kingdom</li> <li>University of Oxford, United Kingdom</li> </ol>
Del-22-13	Malaria Elimination & Antimicrobial Resistance	The overall objective of DELGEME Plus is to apply genomics, epidemiology and informatics to understand the dynamics of transmission and the mechanisms and response to chemotherapeutic interventions focusing on malaria, TB & HIV/AIDS, and bacterial infections including those from animal health and production. To apply genomic epidemiology for detecting and tracking drug resistance in malaria, HIV, TB, fungi and enteric bacteria the focus is the contribution of genomic epidemiology to antimicrobial stewardship, infection prevention and control (IPC), host and environmental factors related to AMR in the context of sub-Saharan Africa i.e. the consortia is using genomics as a tool, not as the exclusive focus of the proposal; and instead projects designed by fellowships will conduct state of the art research on AMR and engage with health decision makers, and African communities in implementation research to produce locally relevant knowledge for malaria elimination and AMR control. Ultimately the consortia aims to addresses three areas in Sustainable Development Goals (SDGs) prioritised across Africa i.e.good health and wellbeing (SDG3); quality training & education (SDG4); and gender equity in advanced research capacity development (SDG5).	DELGEME Plus: Developing Excellence in Leadership and Genomics Training for Malaria Elimination and AntiMicrobial Resistance control in Africa.	Abdoulaye Djimde University of Science Technical and Technology of Bamako, Mali	<ol> <li>Universite des Sciences de la Sante, Gabon</li> <li>Noguchi Memorial Institute for Medical Research, Ghana</li> <li>Kenya Medical Research Institute, Kenya</li> <li>Medical Research Council Unit, Gambia</li> <li>University of Ibadan, Nigeria</li> <li>Stellenbosch University, South Africa</li> </ol>

Del-22-14	Mechanisms of Pathogen Diseases & NCDs	The Consortia seeks to contribute to the achievement of SDG3, by providing high quality training and cutting-edge research on the mechanisms of infectious diseases (IDs) and non-communicable diseases (NCDs). The research projects will have access to already available world class research environment technologies and platforms such as Flow Cytometry, Next Generation Sequencing, Protein Expression, Advanced Microscopy and Imaging, High-Performance Computing, Bioinformatics and Data Management. This will allow WACCBIP 2.0 to focus more into cutting edge research into an expanded range of diseases and to take on an integrated approach whereby analysis of host genetics will be interfaced with mechanisms of host-pathogen interactions, serving as a bridge between communicable and non-communicable diseases. The work packages defined across the consortia will focus on three broad aims: Exploiting pathogen biology to develop novel disease diagnostics, vaccines and drugs; Determining the molecular basis for differences in host susceptibility to infectious diseases to guide better disease prevention and management, and; Identifying genetic markers to inform molecular diagnostic approaches for early detection of NCDs. Priority pathogens include protozoans/malaria, mycobacteria causing tuberculosis and Buruli ulcer; other bacteria causing gastro-intestinal and blood infections; and viruses, including SARS-CoV-2, HIV, hepatitis B and C, rotaviruses, Influenza, Dengue, and a range of zoonotic and emerging viruses. NCDs of interest include breast cancer, sickle cell disease and hearing impairment. For each of the priority diseases, research projects will be organized into five themes i.e. biomarkers and molecular diagnostics; disease pathogenesis and immunity; pathogen and host genomics and host-pathogen interactions; molecular epidemiology for disease surveillance and drug resistance monitoring, and; target discovery for drug and vaccine development.	WACCBIP-DELTAS Il Programme West African Centre for Cell Biology of Infectious Pathogens	Gordon Awandare University of Ghana	<ol> <li>University of Cambridge, United Kingdom</li> <li>London School of Hygiene &amp; Tropical Medicine, United Kingdom</li> <li>University Of Liberia, Liberia</li> <li>Francis Crick Institute, United Kingdom</li> <li>Medical Research Council Unit, The Gambia</li> <li>University of Lagos, Nigeria</li> <li>John Hopkins University, United States of America</li> </ol>
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## Science for Africa Foundation (SFA) Strategy (2023-2027), Agenda 2063 and Global SDGs

All the 14 DELTAS Africa Programmes/Networks/Consortia are addressing the following cross-cutting areas as captured in their applications, final awards and aligned with the SFA Foundation Strategy (2023-2027), Agenda 2063 and Global SDGs.



**Broad areas** of capacity building



Leadership Development across Science areas



Institutional Strengthening & R&D Infrastructures



Best Governance, Research Administration/ Management & Culture.



**Data and Policy** making



Open Research/ **Publications** 



Society

Science and

Planning beyond DELTAS Africa II through diversification of resources

## **DELTAS Africa I in numbers**

The Developing Excellence in Leadership, Training, and Science in Africa (DELTAS Africa) is a long-term, multimillion dollar programme launched in 2015 to support collaborative consortia led by Africa-based scientists to amplify Africa-led development of world-class research and scientific leaders on the continent, while strengthening African institutions.







**Science for Africa Foundation** 



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