Identifying current research/knowledge priorities and gaps/needs related to human health and climate change: AAS' experience with research capacity building under the CIRCLE Programme

Benjamin Apraku Gyampoh, PhD

Programme Manager

African Academy of Sciences

b.gyampoh@aasciences.ac.ke

www.aasciences.ac.ke

The African Academy of Sciences

Driving Scientific and Technological Development in Africa

Kabira Country Club, Kampala, Uganda

22-24 March 2017

Content

- Introduction to AAS and CIRCLE programme
- Current research priorities of CIRCLE Visiting Fellows
- Research of CIRCLE Fellows in health
- Identified gaps/needs related to health and climate change
- Addressing identified gaps
- Conclusion

The African Academy of Sciences

- The AAS is a pan African organisation driving sustainable development in Africa through science technology and innovation.
- Tripartite mandate
  - Recognising excellence
  - Providing scientific advisory to policy makers
  - Implementing key science, technology and innovation programmes
- Programme Areas
  - Climate Change.
  - Health and Wellbeing
  - STEM (Science, Technology, Engineering and Mathematics)
  - Water and Sanitation
  - Food Security and Nutritional Wellbeing
  - Sustainable Energy

CIRCLE Programme

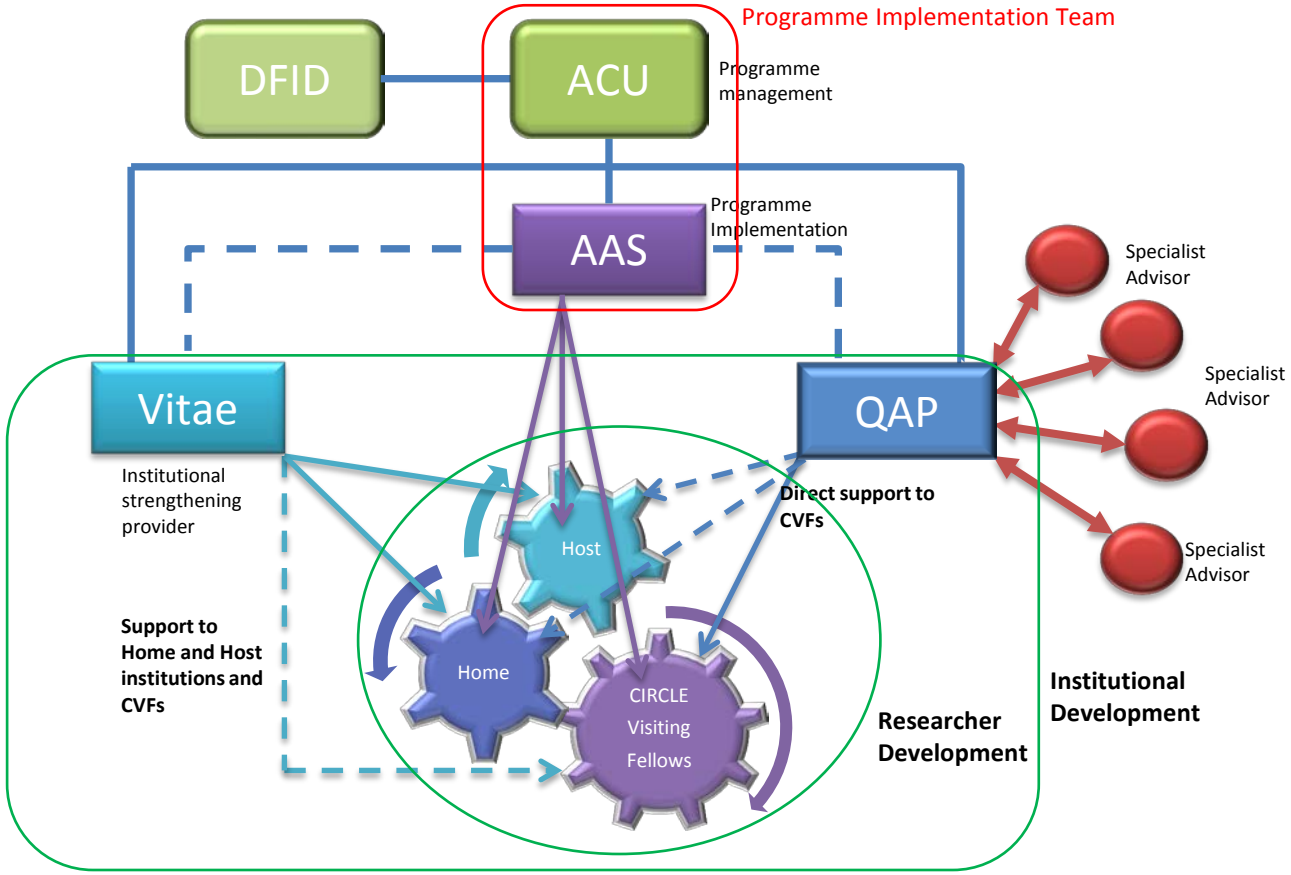
- Climate Impacts Research Capacity and Leadership Enhancement (CIRCLE) programme implemented by AAS and ACU; funded by DFID
- CIRCLE has become a cross-cutting platform allowing researchers with different expertise and experience to converge.
  - Water
  - Agriculture
  - Health and livelihoods
  - Energy
  - Policy

CIRCLE Programme

Objectives:

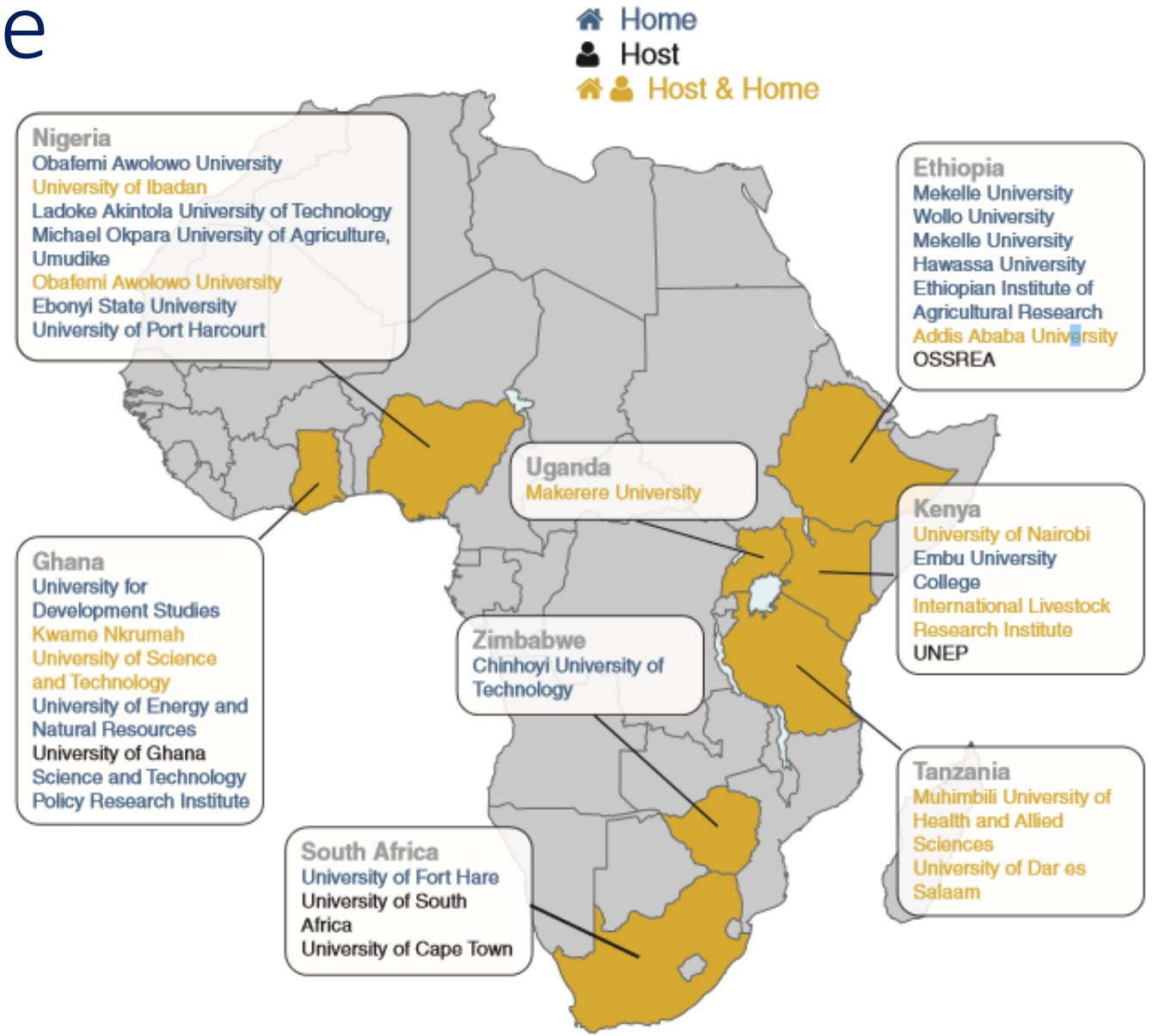
- Individual Researcher development
- Institutional development

CVFs			
Country	C 1	C 2	C3
Ethiopia	5	4	6
Ghana	5	6	5
Kenya	4	0	3
Nigeria	12	13	12
S. Africa	2	2	3
Sudan	1	0	1
Tanzania	3	2	4
Uganda	1	1	1
Zimbabwe	1	1	2
Total	34	29	37



CIRCLE Programme

- Post-Masters fellowships
- Post-PhD fellowships
- Intra-African collaboration
- Exposure to new research systems and idea
- Exposure to new research systems and idea
- Time off normal workloads to think and create
- Specialist Advisors carefully selected and well briefed
- Institutional research needs/gaps assessment
- Long-term relationships and network development
- Research Uptake funding



The African Academy of Sciences
Driving Scientific and Technological Development in Africa

Current research priorities - CIRCLE Fellows

Breakdown by thematic area

Thematic Area	Cohort 1	Cohort 2	Cohort 3	Total
Agriculture	18	14	11	43
Energy	2	2	4	8
Health and Livelihoods	6	8	8	22
Policy	5	4	9	18
Water	3	1	5	9
TOTAL	34	29	37	100

CIRCLE

Research excellence

Research capacity building

Research leadership

Building Capacity for what?

- Knowledge to address some of the challenges brought about by Climate Change and to take advantage of opportunities climate change brings
  - Individuals – understand and translate concepts; increased knowledge
  - Institutions – develop right strategies; teaching and research; community impacts
  - Regional – RECs; trans-border initiatives
  - Continental – intra-Africa collaboration; the Africa we want
  - Global – IPCC; UNFCCC

Research of CIRCLE Visiting Fellows in Health

- Climate Impacts and Adaptation is the main theme. Focus have been on:
  - Health risks associated with changing climate and/or variability
  - Developing health systems that factor new dimension of climate change
  - Impact of changing climate on disease vectors and spread of diseases

1. Using Demography and Health Surveys (DHS) to determine climate resilient households for health sector: Comparative analysis among selected regions of Tanzania
2. Rural women's health vulnerability to climate change. A gendered approach to determining adaptive strategies to climate change impacts on human health. The case of Chingwizi Transit Camp, Zimbabwe
3. Integrating Climate Change into the Management of Community Health Risks: The Role of community-based health structures in selected districts of the Upper West Region of Ghana.
4. Impact of Climate Variability on Eating Habits and Nutrients Intake in Rufiji District, Tanzania

1. The Influence of Climate Change on Dynamics of Vibriophage and its Impact in Bio -Control of Enteropathogenic V Cholerae
2. Impact of Climate Variability on Airborne Pollen and Spores; implications on public health in Nigeria
3. Seasonal Prevalence of Climate-related diseases: Modelling Malaria and Cholera dynamics in Northern Ghana.
4. Effects of climate change on the prevalence of arboviruses (Rift Valley fever virus and West Nile virus) among mosquitoes and the associated vulnerabilities in the Karoo region contiguous to the Eastern Cape and Free State Provinces of South African.
5. Gas flaring and climate change: an analysis of the impact on the health and well-being of communities in the Niger Delta region of Nigeria

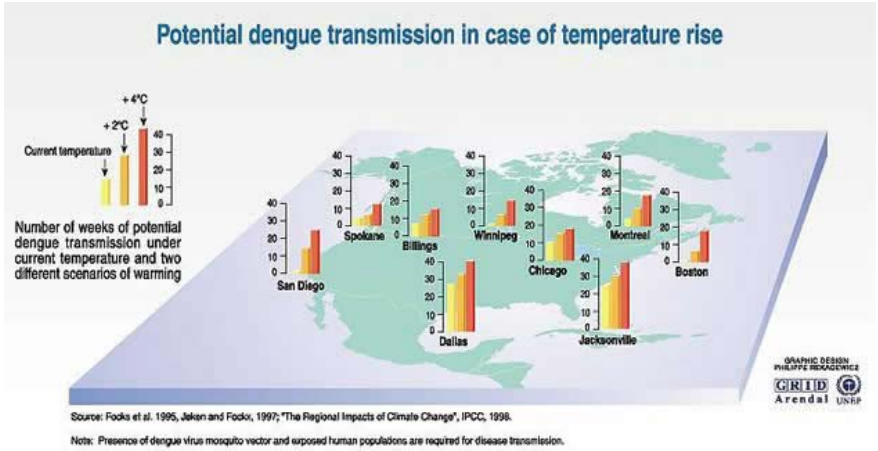
Identified gaps/needs related to human health and climate change

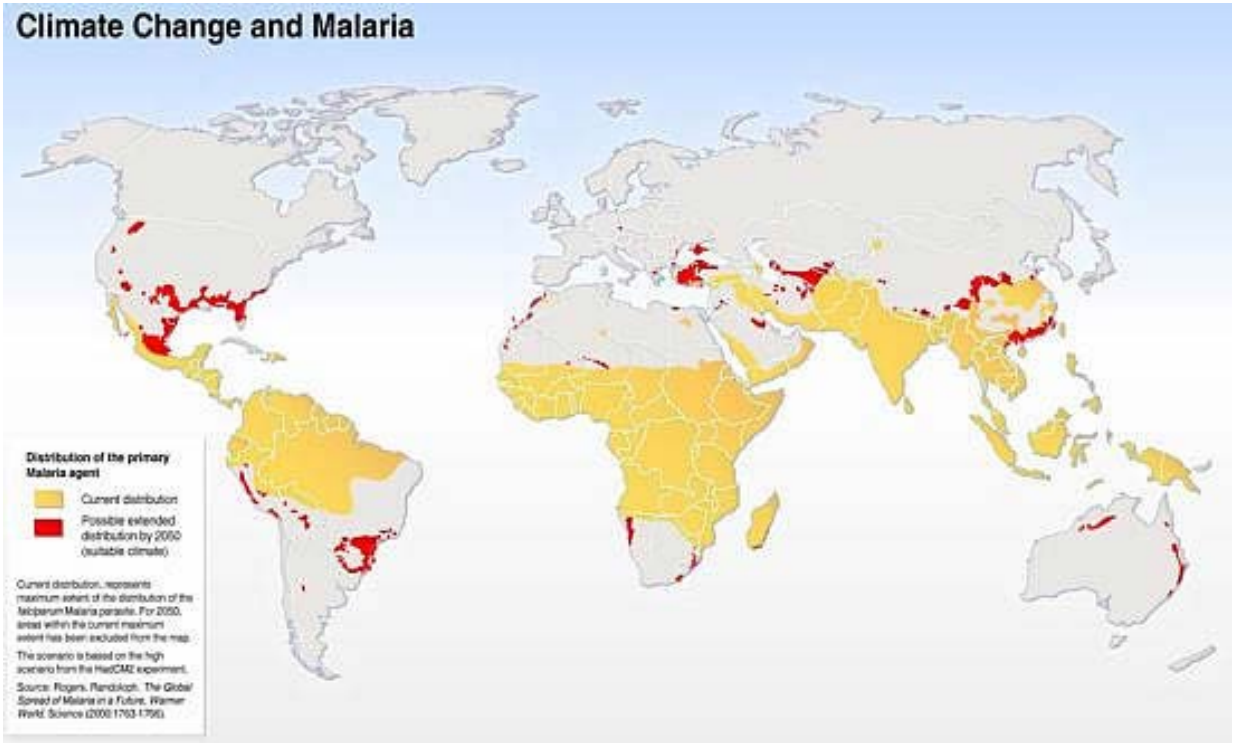
Identified gaps/needs related to human health and climate change

- "One health" concept and climate change
  - Holistic approach to health under a changing climate considering both human and animals and their inter-relationship with climate change

Identified gaps/needs related to human health and climate change

- Climate change and vector-borne diseases
  - emergence
  - spread
  - surveillance

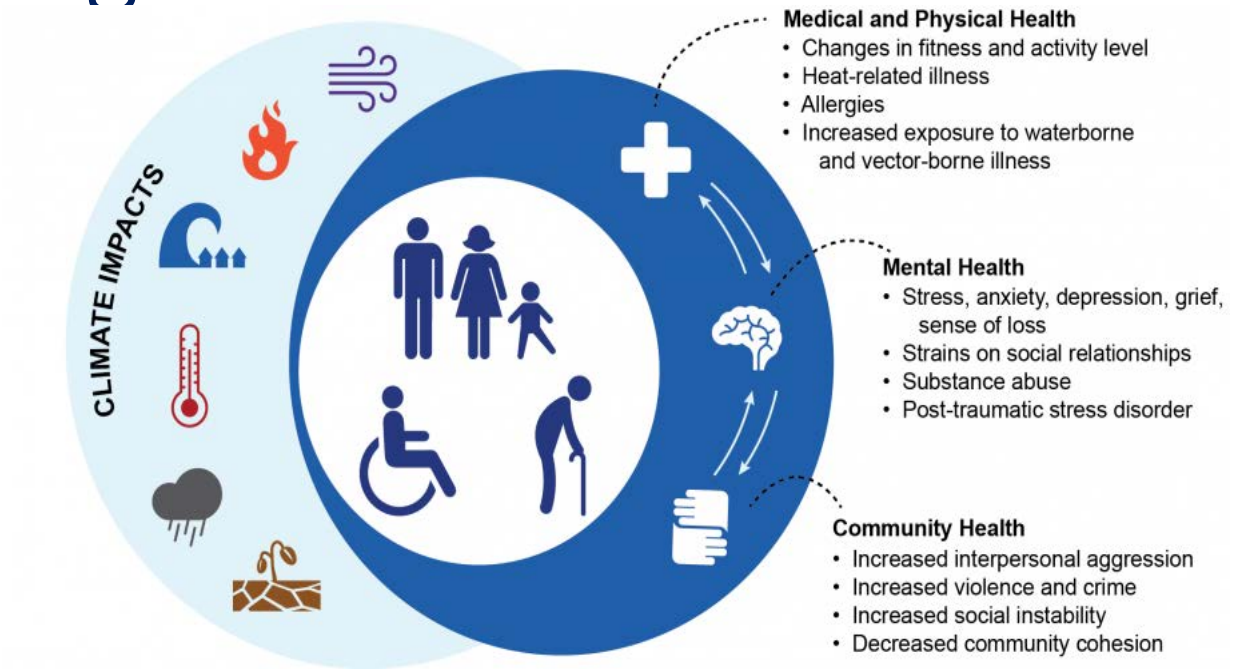




Source: Hugo Ahlenius, UNEP/GRID-Arendal

Identified gaps/needs related to human health and climate change

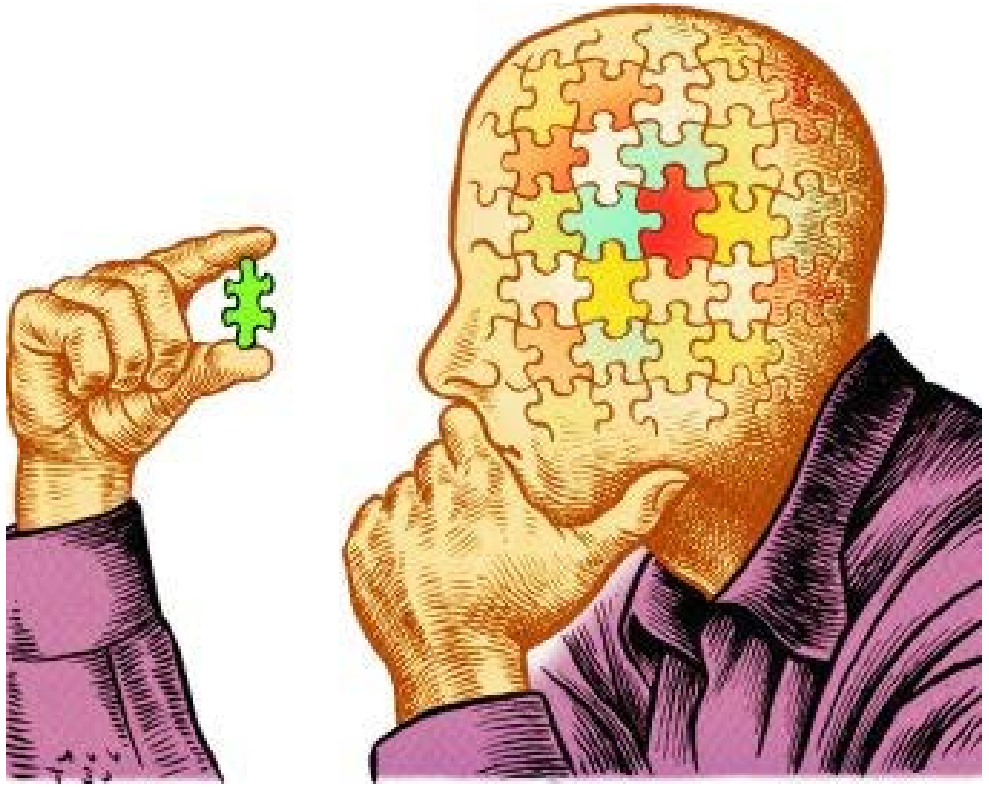
- Health Systems and Policies responding to impacts of climate change
  - Early warning systems
  - Decision support and risk reduction systems
  - Disease burden reviews and projections; costs, etc
  - Human Resources



Source: USGCRP, 2016: The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska, Eds. U.S. Global Change Research Program, Washington, DC, 312 pp. http://dx.doi.org/10.7930/J0R49NQX

Identified gaps/needs related to health and climate change

- Conceptualizing research with innovative end-product in mind to engage decision makers and private sector
  - Who knows about this?
  - Who knows what will come out?
  - Who would like to use?
  - Who can afford to use?
  - Who will help to use?



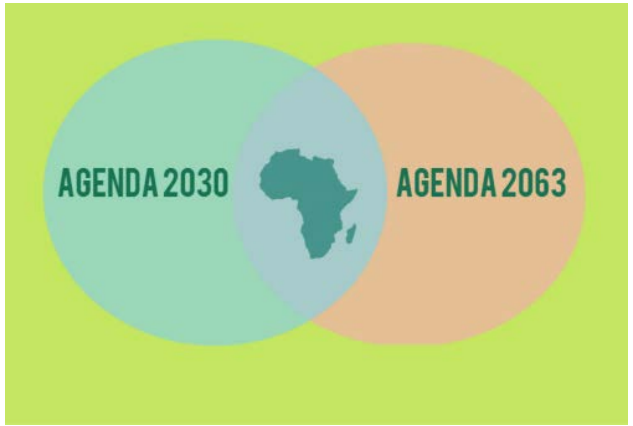
Addressing identified gaps related to human health and climate change

– from the CIRCLE experience

Addressing identified gaps related to human health and climate change

- What should research and capacity building in human health and climate change seek to address

- **Global SDGs – agenda 2030**
  - **Goals and targets under health and climate change**
- **The Africa We want – agenda 2063**
  - **Goals and targets under health and climate change**

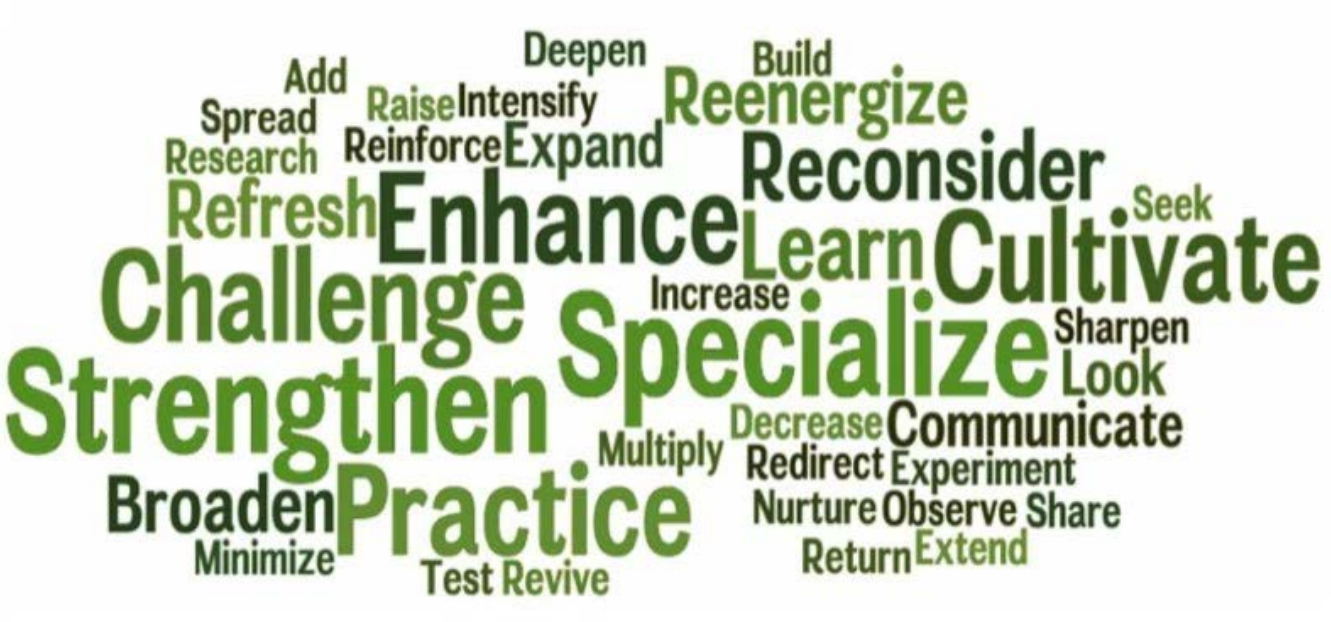


The African Academy of Sciences
Driving Scientific and Technological Development in Africa

Addressing identified gaps related to human health and climate change

- Consciously exploring interlinkages between one-health, livelihoods, climate change adaptation and mitigation

- **Rethinking model**
  - **Capacity building options**
  - **Thematic areas**
  - **Hosting and research leadersl options**
  - **Community or end-user endorsement**
  - **Industrial partnership**
  - **Scalable end-products**



Addressing identified gaps related to human health and climate change

- Conceptualizing research with innovative end-product in mind to engage all stakeholders

Research Uptake

Research Dissemination
- Distributing research mainly in academic community; one way process

Research Communication
- Making known outputs to wide range of stakeholders and getting feedback

Research Uptake
- Purposeful activities to stimulate end users to awareness of, access to and application of research

Conclusion

- Research capacity building under the CIRCLE Programme has been very fruitful and highly productive
- Capacity building must be within a context
  - Broader goal; global, continental, regional, national
  - Researchers, institutions, funding bodies must agree on the context and objectives
  - Special needs must be recognised

Thank you